CMS 11
Version 1.0 MSC

Quick Reference Guide

ERICSSON

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CMS 11 Version 1.0 MSC Quick Reference Guide

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1 Introduction

This Guide is intended to be used by Mobile Services Switching Center (MSC) on-site personnel as a convenient source for often-used information. This Guide is intended for use with the Cellular Mobile System (CMS) 11 product line with Version 1.0 only. It is designed to supplement the existing Ericsson AXE Operation and Maintenance (O&M) Operational Instructions (OPIs).

If a problem arises while using this Guide, consult the OPI relevant to the task at hand.

The CMS 11 Version 1.0 MSC Quick Reference Guide is divided into the following sections:

Section 1: Introduction	Contains general information relating to Ericsson product codes and how these codes relate to AXE functions. Section 1 also contains a list of Ericsson-specific terms, along with their U.S. market equivalents.
Section 2: Basic Commands	Contains some of the most commonly used commands for various AXE subsystems.
Section 3: Advanced Commands	Contains some of the most commonly used commands for experienced personnel. These commands should only be used by less experienced personnel when they are following a specific OPI.
Section 4: AXE Documentation	Identifies each module in the Ericsson technical library.
Section 5: System LEDs and Diagrams	Contains diagrams showing the location and function of selected Central Processor boards and Light Emitting Diodes (LEDs).
Section 6: Routine Tasks	Contains a daily checklist for the AXE and contains sequences of commands useful for various maintenance operations and for selected AXE alarms.

1.1 Reason for Reissue

This is the initial release of this document.

1.2 Product Code/Product Identity

A product is identified by a unique product code. The Product Code indicates the systems associated with the product, its location in the product

hierarchy, its function, and its relationship with other products. Figure 1 on page 6 shows a simplified Product Code in the AXE.

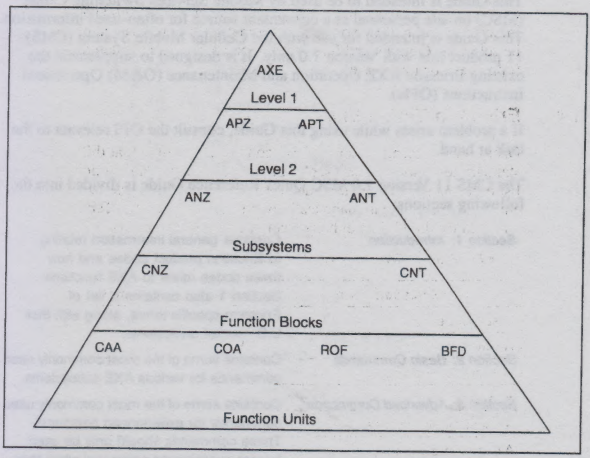


Figure 1. Product Code Structure in AXE

System level 1 has the product code AXE. System level 2 has product codes APZ for the control and APT for the switching system. All subsystems in APZ have a product code ANZ (ANT is used for APT). All function blocks in ANZ have a product code CNZ (CNT is used for ANT).

Software units and function units have product codes CAA and COA, respectively.

Magazines and printed boards have the product codes BFD and ROF, respectively.

1.3 AXE Commands

Most Man-Machine Language (MML) commands consist of five alphanumeric characters. The first two characters represent the function group to which the command belongs, such as subscriber functions (SU) or exchange data (EX). The third and fourth characters represent the particular area affected, such as feature restriction (FR). The last character represents the action performed by that command such as initiate (I), end (E) or print (P).

UNIX® commands consist of two or more lowercase alphanumeric characters. The UNIX command may be followed by one or more options or operands. Variable quantities are indicated by italic text. Options or operands enclosed in brackets ([ ]) are optional. Braces ({ }) are used to indicate that one of two or more combinations of options and operands must be selected. Options and fixed-value operands must be entered as shown (uppercase or lowercase).

1.4 Ericsson Terms List

Occasionally, terms appear in Ericsson documentation that differ from standard telephony terms used in the United States. This section contains a list of terms used in Ericsson documentation and the closest U.S. telephony equivalent arranged alphabetically by the Ericsson term in Table 1 on page 7 and then by the U.S. telephony term in Table 2 on page 10.

Table 1. Ericsson Terms and their U.S. Telephony Equivalents

Ericsson Term	U.S. Telephony Term
A-subscriber	Calling Party
A-wire	Tip Lead
Abbreviated Dialing	Speed Calling
Acoustic	Audible
Alphanumeric Terminal	Computer Terminal
Alternation on Inquiry	Call Waiting
Announcement Service Terminal	Announcement Magazine Office Announcements Recorded Announcements
B-answer	Answer Supervision
B-number	Called Number
B-number Analysis	Digit Interpretation
B-subscriber	Called Party
B-wire	Ring Lead
Block	Make Busy; Take Out of Service
Bothway Trunk	Two-way Trunk
Branching	Screening
Call Barring	Deny
Call Diversion	Call Forwarding
Call Flow Control	Simulated Facility Group

Table 1. Ericsson Terms and their U.S. Telephony Equivalents (Continued)

Ericsson Term	U.S. Telephony Term
Call Recording	Charging/Automatic Message Accounting (AMA)/Toll Ticketing
Card	Circuit Pack
Case	Category
Centum Call Seconds	Hundred Call Seconds
Changeable Exchange, Subscriber, Routing, and Charging Data	Translations
Changeover	Retrofit
Circuit Board	Circuit Pack
Clear	Disconnect
Code Receiver	Multifrequency (MF)-receiver
Code Sender	MF-transmitter
Compromise Value	Default Value
Data Transcript	Office Dependent Translations (Data) Office Records
Deblock	Make Idle Put in Service
Deferred Constant	Office Parameter
Detached Subscriber Stage	Remote Switching Unit
Destination Control	Code Blocking
Disturbance	Error
Dual Seizure	Glare Condition
Earthed	Grounded
Exchange	Central Office Switch
Exchange Data	Translations
Exchange Library	Central Office/Switch Documentation
Exchange Records	Office Records
EXECUTIVE (processor state)	Active In Service On-line
Extension	Growth Allocation

Table 1. Ericsson Terms and their U.S. Telephony Equivalents (Continued)

Ericsson Term	U.S. Telephony Term
Forlopp	A Swedish Word Representing a Low-level Restart Process for Releasing Hanging Devices in an AXE Switch
Function Change	Program Change
Hookflash	Switchhook Flash Flash Hook
Input/Output (I/O) Device	Terminal
Interworking	Interacting
Job	Program Block
Keyset	Dual Tone Multifrequency (DTMF) Telephone Set
Keyset Code Reception Circuit	DTMF Receiver
Magazine	Card (Circuit Board) Cage
Multiple Party	Multiparty
Non-speech Position	Transient Call
Passivate	Deactivate Inhibit
Passive	Inactive Standby Off-line
Private Branch Exchange (PBX)	Multiline Hunt Group (MLHG) Features
Post Telephone and Telegraph Administration (PTT)	Telephone Operating Company
Printed Board Assembly	Circuit Pack
Priority Feature	Essential Service Protection
Provisioning	Equipping Allocating
Register Recall	Flash Hook
Rerouting	Alternate Routing
Ringing Signal	Power Ringing
Ringing Tone	Audible Ringing
Semipermanent Connection	Nailed-up Connection
Size Alteration Event	Memory Allocation
Speech Position	Stable Call

Table 1. Ericsson Terms and their U.S. Telephony Equivalents (Continued)

Ericsson Term	U.S. Telephony Term
STANDBY (processor state)	Inactive Standby Off-line
Statistics	Traffic Data
Stoppage	Outage
Store	Memory
Subscriber Administration	Service Order Subscriber Services Customer Features
Supervision	Detection of Faults Control
Switch Supervisory Unit Identification	Trunk Network Number
Synch	Sync
Telephone Network	Public Switched Telephone Network
Traffic Handling	Circuit Orders
Tender	Bid
Terminal1 Subscriber	Controlling Subscriber
Touch-calling Dial	DTMF Push-button Pad
Transferred Subscriber	Forwarded Subscriber
Transit Calls	Tandem Calls
Trunk Offering	Operator Verify
Unallocated Number	Blank Number
Unassigned Number	Vacant Number
Video Display Unit	Video Display Terminal
Wiring Unit	Backplane

Table 2. U.S. Terms and their Ericsson Equivalents

U.S. Telephony Term	Ericsson Term
Active	EXECUTIVE (processor state)
Allocation	Extension
Alternate Routing	Rerouting
Announcement Magazine	Announcement Services Terminal
Answer Supervision	B-answer

Table 2. U.S. Terms and their Ericsson Equivalents (Continued)

U.S. Telephony Term	Ericsson Term
Audible	Acoustic
Audible Ringing	Ringing Tone
Backplane	Wiring Unit
Bid	Tender
Blank Number	Unallocated Number
Call Forwarding	Call Diversion
Call Waiting	Alternation on Inquiry
Called Number	B-number
Called Party	B-subscriber
Calling Number	A-number
Calling Party	A-subscriber
Card Cage	Magazine
Category	Case
Central Office	Exchange
Central Office/Switch Documentation	Exchange Library
Charging	AMA Call Recording
Circuit Orders	Traffic Handling
Circuit Pack	Circuit Board Printed Board Assembly Card
Code Blocking	Destination Control
Computer Terminal	Alphanumeric Terminal
Control	Supervision
Controlling Subscriber	Terminal1 Subscriber
Customer Features	Subscriber Administration
Deactivate	Passivate
Default Value	Compromise Value
Detection of Faults	Supervision
Deny	Call Barring
Digit Interpretation	B-number Analysis
Disconnect	Clear
DTMF Receiver	Keyset Code Reception Circuit
DTMF Push-button Pad	Touch-calling Dial

Table 2. U.S. Terms and their Ericsson Equivalents (Continued)

U.S. Telephony Term	Ericsson Term
DTMF Telephone Set	Keyset
Equipping	Provisioning
Error	Disturbance
Essential Service Protection	Priority Feature
Flash Hook	Hookflash Register Recall
Forwarded Subscriber	Transferred Subscriber
Glare Condition	Dual Seizure
Grounded	Earthed
Growth	Extension (of a Magazine)
Hundred Call Seconds	Centum Call Seconds
In Service	EXECUTIVE (processor state)
Inactive	Passive STANDBY (processor state)
Inhibit	Passivate
Interacting	Interworking
Make Busy	Block
Make Idle	Deblock
Memory	Store
Memory Allocation	Size Alteration Event
MF Receiver	Code Receiver
MF Transmitter	Code Sender
Multiline Hunt Group (MLHG) Features	PBX
Multiparty	Multiple Party
Nailed-up Connection	Semipermanent Connection
Office Announcements	Announcement Service Terminal
Office Dependent Translations (Data)	Data Transcript
Office Parameter	Deferred Constant
Office Records	Exchange Records Data Transcript
Off-line	Passive STANDBY (processor state)
On-line	EXECUTIVE (processor state)

Table 2. U.S. Terms and their Ericsson Equivalents (Continued)

U.S. Telephony Term	Ericsson Term
Operator Verify	Trunk Offering
Outage	Stoppage
Power Ringing	Ringing Signal
Program Block	Job
Program Change	Function Change
Public Switched Telephone Network	Telephone Network
Put in Service	Deblock
Recorded Announcements	Announcement Services Terminal
Remote Switching Unit	Detached Subscriber Stage
Retrofit	Changeover
Ring Lead	B-wire
Screening	Branching
Service Order	Subscriber Administration
Simulated Facility Group	Call Flow Control
Speed Calling	Abbreviated Dialing
Stable Call	Speech Position
Standby	Passive STANDBY (processor state)
Subscriber Services	Subscriber Administration
Switch	Exchange
Switchhook Flash	Hookflash
Sync	Synch
Tandem Calls	Transit Calls
Take Out of Service	Block
Telephone Operating Company	Post Telephone and Telegraph Administration (PTT)
Terminal	I/O Device
Tip Lead	A-wire
Traffic Data	Statistics
Transient Call	Non-speech Connection
Translations	Changeable Exchange, Subscriber, Routing, and Charging Data Exchange Data
Trunk Network Number	Switch Supervisory Unit Identification

Table 2. U.S. Terms and their Ericsson Equivalents (Continued)

U.S. Telephony Term	Ericsson Term
Two-way Trunk	Bothway Trunk
Vacant Number	Unassigned Number
Video Display Terminal	Video Display Unit

2 Basic Commands

2.1 Alarm Commands

The following commands are used to evaluate the status of the Alarm Interface (ALI) or System Alarms:

Print alarm interface connection
<ALALP;

Print alarm class data
<ALCLP;

Print external alarm data
<ALEXP;

Print alarm list
<ALLIP;

Print alarm list print times
<ALLTP;

Print alarm receiver data
<ALRDP;

Print scheduled alarm status report interval
<ALRTP;

Turn on audible alarm on alarm panel and set terminal status in host office to attended
<IODAC:ATT;

Note: The terminal must have common attendance status, use the command `IOIOP:IO1=AT-x;` to determine the terminal status.

Turn off audible alarm on alarm panel and set terminal status in host office to unattended
<IODAC;

Note: The terminal must have common attendance status, use the command `IOIOP:IO1=AT-x;` to determine the terminal status.

2.2 System Backup/Reload File Commands

The following commands are used to evaluate the status of system backup and reload files:

Print volumes used by CP file system
```
cpfdf
```

Print attributes of all files in CP file system
```
cpfls -l
```

Print subfiles of composite files RELFSW0, 1 and 2
```
cpfls -s relfsw0
```

Print system backup file backup date and time
```
<SYBFP:FILE=RELFSWx;
```

Print information about hanging dump
```
<SYBHP;
```

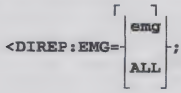
Print system reloading information®
```
<SYBRP;
```

Print automatic backup information dump times
```
<SYBTP;
```

2.3 Central Processor Commands

The following commands are used to evaluate the status of the Central Processor (CP):

Print error information for Extension Module Group (EMG)



Print hardware identities for all CP boards

```
<DPHIP;
```

Print CP state

```
<DPWSP;
```

Print CP restart data

```
<SYRIP;
```

2.4 MCS/DCS Commands

The following commands are used to evaluate the status of the Man-Machine Communications Subsystem (MCS) and the Data Communications Subsystem (DCS):

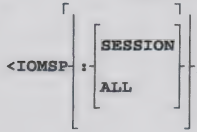
Print exchange identity

```
<IOEXP;
```

Print Input/Output (I/O) device data

```
<IOIOP:IO1=ALL;
```

Print route definition and session data of Man-Machine Language (MML) service



Print I/O device status

```
<IOSTP;
```

2.5 Group Switch Commands

The following commands are used to evaluate the status of the Group Switch Subsystem (GSS):

Print Control Signalling Link (CSL) device data

```
<EXCGP:DEV=dev...;
```

Print devices and equipment tied to Control Signalling Path (CSP) and CSP state

```
<EXCPP:EMG=[emg|ALL][,RDL];
```

Print CSL state

```
<EXCPP:EQM=[eqm|ALL][,RDL];
```

Print Extension Module (EM) data

```
<EXEMP:RP=ALL,EM=ALL;
```

Note: This printout lists the Regional Processor (RP) and EM used to control equipment in the Group Switch (GS). Clock Modules (CLMs) are listed as CLT-x and Time Switch Modules (TSMs) are listed as GS-x.

Print group switch state

```
<GSSTP;
```

Print Switching Network Terminal (SNT) connection data

```
<NTCOP:SNT=snt...;
```

Note: Use this printout to determine where an SNT connects to the GS, and to determine which devices are assigned to an SNT.

Print SNT connections to specific TSM

```
<NTCOP:SNTP=sntp...;
```

Print SNT connection data

```
<NTCOP:SNT=snt...,DIPINF;
```

Note: Adding the parameter `DIPINF` causes any digital path information to be listed.

Print SNT working state

```
<NTSTP:SNT=snt...;
```

2.6 File Management Commands

The following commands used to evaluate the status of the File Management Subsystem (FMS):

Print file decompression status

```
<IMDCP:FILE=file;
```

Print available decompression methods

```
<IMDCP:METHODS;
```

Print status of decompression in progress

```
<IMDCP:STATUS;
```

List files defined or reported to Adjunct Processor File Processing (AFP)

```
afpls [-a[-q]] [-s|-f|-l] [file [destination]]
```

List Central Processor (CP) file system files and their attributes

```
cpfls [-l] [-s] [-q] [file]
```

List CP file system subfiles and their attributes

```
cpfls [-l] [-q] file-subfile[-generation]
```

List CP file system volumes

```
cpfdf [-q]
```

2.7 Subscriber Switching Commands

The following commands are used to evaluate the status of the Subscriber Switching Subsystem (SSS):

Print digital path state

```
<DTSTP:DIP=ALL;
```

Note: This command determines the working state of a Digital Path (DIP).

Print control and signalling link data

```
<EXCLP:EQM=eqm...;
```

Note: This command checks the working state of signalling links, their responsible Regional Processor (RP), speed, and the identity of any device used to carry the signalling link to a remote. Each Extension Module Group (EMG) must have two links.

Print device data

```
<EXDEP:DEV=dev;
```

Note: This command determines to which Switching Network Terminal (SNT) a device is assigned.

Print EMG Extension Module (EM) software and equipment data

```
<EXEDP:EMG=emg,EM=ALL;
```

Note: This command determines the equipment and software assigned to all EMs in an EMG.

Print EMG data

Note: This command obtains the EMG number, Control Signalling Link-Central (CLC) number, RP number, side designation (Extension Module Regional Processor [EMRP] Bus Path A or Path B), and type (remote or local).

Print EMG EM processor control state

```
<EXEPP:EMG=emg...,EM=ALL;
```

Note: This command gives the working state of all the EMRPs assigned to an EMG.

Print device state details for specified devices

```
<STDEP:DEV=dev...[,LIST];
```

Print device state details for specified device type

```
<STDEP:DETY=dety;
```

Print device state in specified routes

```
<STRDP:R=r...[,STATE=state...];
```

Print device state in route for specified device type

```
<STRDP:DETY=dety[,STATE=state...];
```

2.8 Mobile Telephony Commands

The following commands are used to evaluate the status of mobile telephony functions:

Print exchange property data

Print Base Station Controller (BSC) data for Code Division Multiple Access (CDMA) Mobile Services Switching Center (MSC)

```
<MMBSP:BSC=bsc...;
```

Print cell data for specified cells

```
<MMCEP:CELL=cell...;
```

Print cell data for specified BSCs

```
<MMCEP:BSC=bsc...;
```

Print cell data for specified Location Area Identities (LAIs)

```
<MMCEP:LAI=lai...;
```

Print CDMA cooperating exchange data for specified cooperating exchanges

```
<MMCOP:EXM=exm...;
```

Print CDMA cooperating exchange data for specified global cooperating exchange numbers

```
<MMCOP:GLEXM=glexm...;
```

Print CDMA cooperating exchange data for specified American Nation Standards Institute (ANSI) cooperating exchange destination

```
<MMCOP:DEST4=dest4;
```

Print CDMA cooperating exchange data for specified Consultative Committee for International Telegraph and Telephone Number 7 (CCITT7) cooperating exchange destination

```
<MMCOP:DEST5=dest5;
```

Print LAIs for CDMA MSC

```
<MMLAP;
```

Print CDMA own exchange data

```
<MMOEP;
```

Print A-subscriber and B-subscriber traffic classes and status of resulting traffic cases

```
<MSTMP;
```

Print Carrier Identification Code (CIC) and Preferred Interexchange Carrier (PIC) data

```
<MTETP;
```

Print mobile subscriber data for specified subscriber numbers

```
<MTMNP:SNB=snb...;
```

Print mobile subscriber data for specified mobile subscriber numbers

```
<MTMNP:MSNB=msnb...;
```

Print mobile subscriber data for specified International Mobile Station Identity (IMSI)

```
<MTMNP:IMSI=imsi...;
```

Print mobile subscriber data for restricted subscribers

```
<MTMNP:REST;
```

Print mobile subscriber data for unknown mobile subscribers

```
<MTMNP:UNKNOWN;
```

Print Interexchange Carrier (IC), its CIC, and associated PIC category

```
<MTPCP;
```

Print routes connected to specified cooperating exchanges and function of each route

```
<MTRCP:EXM=exm...;
```

Print cooperating exchange and function of each route for specified routes

```
<MTRCP:R=r...;
```

Print roamer routing numbers and their state

```
<MTRNP:RRNB=rrnb...;
```

Print serial numbers on barring list

```
<MTSBP[:SRNB=srnb...];
```

Identify and print cell location of idle mobile subscriber with specified subscriber number

```
<MTSLI:SNB=snb;
```

Identify and print cell location of idle mobile subscriber with specified mobile subscriber number

```
<MTSLI:MSNB=msnb;
```

Identify and print cell location of idle mobile subscriber with specified IMSI

```
<MTSLI:IMSI=imsi;
```

Print mobile station or subscriber number or both for specified serial number

```
<MTSNP:SRNB=srnb;
```

Print serial number for specified subscriber number

```
<MTSNP:SNB=snb...;
```

Print serial number for specified mobile station number

```
<MTSNP:MSNB=msnb...;
```

Print serial number for specified IMSI

```
<MTSNP:IMSI=imsi...;
```

Print global state and activity of mobile subscriber with specified subscriber number

```
<MTSSP:SNB=snb...;
```

Print global state and activity of indicated mobile subscriber with specified mobile subscriber number

```
<MTSSP:MSNB=msnb...;
```

Print global state and activity of indicated mobile subscriber with specified IMSI

```
<MTSSP:IMSI=imsi...;
```

Print unidentified IMSI call handling data

```
<MTUIP;
```

Print data for subscription areas

```
<MTUSP:SCL=scl...;
```

Print visitor register activity supervision parameters

```
<MTVAP;
```

Print visitor register passive subscribers

```
<MTVPP:TDH=tdh;
```

Print visiting mobile subscriber in visitor register from specified exchanges

```
                ┌          ┐
                │ exm...   │
<MTVRP:EXM=     │ UNKNOWN  │ ;
                │ ALL      │
                └          ┘
```

Print Wireless Intelligent Network (WIN) data

```
<MTWDP;
```

2.9 RP/EM Commands

The following commands are used to evaluate the status of the Regional Processors (RP) and Extension Modules (EM):

Print RP event records

```
<DIRRP:RP=rp;
```

Print EM data

```
<EXEMP:RP=ALL,EM=ALL;
```

Print RP data

```
<EXRPP:RP=rp...;
```

Print RP software unit data

```
<EXRUP:RP=rp;
```

2.10 Subscriber Services Commands

The following commands are used to evaluate or change the status of subscriber services:

Print fault status of channel devices

```
<MBCFP:DETY=MBTRAB;
```

Print list of blocked devices of type specified

```
<STBSP:DETY=dety...[,BLSTATE=blstate];
```

Note: If the parameter NC is specified, a list of vacant devices only is printed.

Print device state details for specified devices

```
<STDEP:DEV=dev...[,LIST];
```

Print device state details for specified device type

```
<STDEP:DETY=dety;
```

Print device state of devices in specified route

```
<STRDP:R=r...[,STATE=state];
```

Print device state of devices with specified device type

```
<STRDP:DETY=dety...;
```

Print device state for subscribers (subscriber line states)

```
<STSUP:SNB=snb...;
```

Change device connection to Subscriber Number (SNB)

```
<SULIC:SNB=snb,DEV1=dev1,DEV2=dev2;
```

Disconnect or reserve SNB

```
<SULIE:SNB=snb...[,RES][,NP];
```

Connect specified device to SNB

```
<SULII:DEV=dev[,ONELINE],SNB=snb;
```

Connect specified device type to SNB

```
<SULII:DETY=dety,SNB=snb;
```

Change subscriber classes

```
<SUSCC:SNB=dev,SCL=scl...;
```

Print subscriber data

```
<SUSCP:SNB=snb...[,LIST];
```

Print devices linked to specified special equipment

```
<SUSEP:DEV=dev...;
```

Print devices linked to specified special equipment type

```
<SUSEP:DETY=dety...;
```

Print subscriber data

```
                ┌                                    ┐
                │ SCL=scl...[,SUT=sut][,COS=cos]     │
<SUSPP:         ├ SUT=sut[,COS=cos]                  ┤;
                │ COS=cos                            │
                └                                    ┘
```

Connect routing case to subscriber numbers

```
<SUSRI:SNB=snb...,RC=rc;
```

2.11 Adjunct Processor Commands

The following commands are used to evaluate the status of Adjunct Processors (APs) in the Adjunct Computer Subsystem (ACS):

Print AP maintenance table
<APAMP;

Initiate AP local mode
<APLOC;

Note: This command is only available from Input/Output (I/O) devices connected to the AP.

Warning!

Verify that the cause of the alarm has been cleared before ceasing the alarm because a cleared alarm may not be reissued.

Cease the specified alarm
acease *alarm_identifier*

List all AP alarms
alist

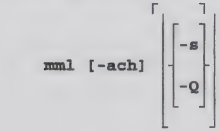
List AP alarms for a specific problem
alist -i *specific_problem*[,*index_number*]

List AP alarms for specific alarm class
alist [-s *alarm_class*]

List AP alarms for specific probable cause
alist [-x *probable_cause*]

List registration file of Directory Service function
dsdls [-a]

Initiate Man-Machine Language (MML) command session



Execute MML command
mml [-s] *command*

Execute MML command file

mml [-bcs] [-r *time*][-w *time*] -f *file*

2.12 Trunk and Signalling Commands

The following commands used to evaluate the status of the Trunk and Signalling Subsystem (TSS):

Print digital path data for specified Digital Paths (DIPs)

```
<DTDIP:DIP=dip...;
```

Note: This command prints the name of the DIP and the corresponding Switching Network Terminal (SNT).

Print digital path data for specified SNT

```
<DTDIP:SNT=snt;
```

Note: This command prints the name of the DIP and the corresponding SNT.

Print digital path data for specified device

```
<DTDIP:DEV=dev;
```

Note: This command prints the name of the DIP and the corresponding SNT.

Print digital path state

```
                ┌ dip...                                  ┐
<DTSTP:DIP=     │                                         ├;
                └ ALL[,TYPE=type][,STATE=state]           ┘
```

Print dedicated pool size for specified Echo Canceller in Pool (ECP) variant

```
<EPDPP:ECPV=ecpv...;
```

Print ECP pool parameter set data

```
<EPPSP:IPAR=ipar...[,ROUTE][,SEMI];
```

Print ECP parameter set data and semipermanently connected device

```
<EPSCP:DEV=dev...;
```

Print device data for specified devices

```
<EXDEP:DEV=dev...[,PPS];
```

Note: This command determines the assigned SNT for each device.

Print device data for devices connected to specified routes

```
<EXDEP:R=r...[,PPS];
```

Note: This command determines the assigned SNT for each device.

Print route in which device resides

```
<EXDRP:DEV=dev;
```

Print all devices in route

```
<EXDRP:R=r;
```

Print semipermanent connection data

```
<EXSCP:NAME=ALL;
```

Note: This command lists all devices with a semipermanent connection.

Print Digital Circuit Multiplication Equipment (DCME) alarms and their corresponding alarm class

```
<MUACP;
```

Print DCME positions connected to specified DIPs

```
<MUCOP:DIP=dip...;
```

Print DIPs connected to specified DCME systems

```
<MUCOP:DSN=dsn...;
```

Print devices connected to specified DIPS that are in specified state

```
<MUDEP:DIP=dip...,STATE=state;
```

Print devices connected to specified DCME position that are in specified state

```
<MUDEP:DSN=dsn,DPN=dpn...,STATE=state;
```

Print status of DCME system connected to specified DIPs

```
<MUSTP:DIP=dip...;
```

Print status of specified DCME positions

```
<MUSTP:DSN=dsn...;
```

Print SNT connection data

```
<NTCOP:SNT=snt...;
```

Print SNT connection data with digital path information

```
<NTCOP:SNT=snt...,DIPINF;
```

Print SNT status

```
<NTSTP:SNT=ALL;
```

Print device state details for specified devices

```
<STDEP:DEV=dev...[,LIST];
```

Print device state details for devices with specified device type

```
<STDEP:DETY=dety;
```

2.13 SS7 Commands

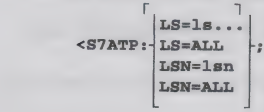
The following commands are used to evaluate the status of Signalling System Number 7 (SS7):

Print default values as well as defined values of trapping parameters for specified Signalling Network on Occurrence of Autonomous Message (SNOAM) report

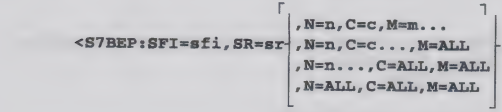
Print state of one or more local subsystems (application parts) supported by own signalling point

```
<S7APP:LSS=lss...;
```

Print defined values for message threshold, rejection threshold, and amount of time, during which thresholds are to be checked, for each specified gateway screening link set



Print SS7 Signalling Transfer Point (STP) gateway screening blocked entity data



Print capability codes defined for own signalling point

```
<S7CCP;
```

Print Signalling Connection Control Part (SCCP) concerned signalling point information for specified signalling point

```
<S7CPP:SP=sp...,SSN=ssn...;
```

Print SCCP concerned signalling point information for specified local subsystem number

```
<S7CPP:LSS=lss...;
```

Print SCCP concerned signalling point information for specified concerned signalling point

```
<S7CPP:CSP=csp;
```

Print destination definition data for specified destination points

```
<S7DEP:DEST=dest...[,XLIST];
```

Print destination supervision data for specified destination points

```
<S7DSP:DEST=dest...;
```

Print fault log containing ten most recent faults causing specified signalling terminals to leave "in service" state or fail in initial alignment

```
<S7FLP:ST=st...;
```

Print global title routing case data for specified routing cases

```
<S7GCP:GTRC=gtrc...;
```

Print global title routing case data for all messages routed to signalling point

```
<S7GCP:GTRC=ALL,RI=GT[,SP=sp];
```

Print global title routing case data for all messages routed to subsystem

```
<S7GCP:GTRC=ALL,RI=SS[,SP=sp,SSN=ssn];
```

Print SS7 STP gateway screening link set data for specified link sets

```
<S7GLP:LS=ls...;
```

Print SS7 STP gateway screening link set data for specified link set name

```
<S7GLP:LSN=[ lsn ]-;
           [ ALL ]
```

Print status of services supported by Local Number Portability (LNP) Message Relay function

```
<S7LRP;
```

Print data for specified link sets

```
<S7LSP:LS=ls...;
```

Print data for specified link set name

```
<S7LSP:LSN=[ lsn ]-;
           [ ALL ]
```

Print mated subsystems in SCCP network for specified signalling points

```
<S7MSP:SP=sp...,SSN=ssn...;
```

Print mated subsystems in SCCP network for specified local subsystems
<S7MSP:LSS=lss...;

Print configuration data and status of SCCP network
<S7NCP:SP=sp...[,SSN=ssn...];

Print monitor users and parameter values specified by monitor user
<S7NMP:USER=user;

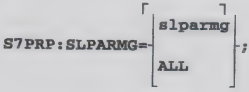
Print state of SS7 SNOAM function
<S7OMP;

Print identity defined for own signalling point
<S7OPP;

Print signalling point and capability code replacing Originating Point Code (OPC) in outgoing messages
<S7ORP;

Print signalling link parameter groups
<S7PGP;

Print signalling links associated with specified signalling link parameter group



Print signalling routing data for specified destinations
<S7RSP:DEST=dest...;

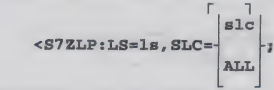
Print signalling routing data for specified link sets
<S7RSP:LS=ls...[,CLS];

Print signalling link data for specified link set
<S7SLP:LS=ls...;

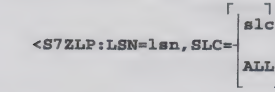
Print data for specified signalling points
<S7SPP:SP=sp...;

Print SS7 signalling terminal data for specified signalling terminals
<S7STP:ST=st...;

Print Digital Stream 0 (DS0)-A data for specified signalling links



Print DS0-A data for specified link set name



Print current manual signalling data link test status for signalling link with specified link set

```
<S7ZTP:LS=ls,SLC=slc;
```

Print current manual signalling data link test status for signalling link with specified link set name

```
<S7ZTP:LSN=lsn,SLC=slc;
```

2.14 CCITT7 Commands

The following commands are used to evaluate the status of Consultative Committee for International Telegraph and Telephone Number 7 (CCITT7):

Print concerned subsystems for all signalling points

```
<C7BSP;
```

Print concerned subsystems for specified signalling point

```
<C7BSP:SP=sp;
```

Print signalling points defined as concerned for the specified subsystem

```
<C7BSP:SSN=ssn;
```

Print disturbance supervision data for the specified event numbers

```
<C7DSP:ENUM=enum...;
```

Print event reporting results for specified event numbers

```
<C7ERP:ENUM=enum...;
```

Print link set data

```
<C7LDP:LS=ls...;
```

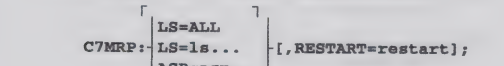
Print parameter groups and their parameter values

```
<C7LPP;
```

Print link set state

```
<C7LTP:LS=ls...;
```

Print Message Transfer Part (MTP) restart link set data



Print network configuration data for specified signalling point

```
<C7NCP:SP=sp...[,SSN=ssn...];
```

Print network configuration data for own signalling point

```
<C7NCP:SP=OWN;
```

Print own signalling point parameters

```
<C7OPP:NI=ni...;
```

Print routing data for one or more signalling routes

```
<C7RSP:DEST=dest...;
```

Print routing data for specified link set

```
<C7RSP:LS=ls;
```

Print local subsystems manually marked as prohibited

```
<C7RTP;
```

Print signalling points for which specified local subsystems are manually marked as prohibited

```
<C7RTP:LSSN=lssn;
```

Print local subsystems manually marked as prohibited by specified signalling point

```
<C7RTP:SP=sp;
```

Print signalling terminals connected to specified devices

```
<C7SDP:DEV=dev;
```

Print signalling point data for specified signalling points

```
<C7SPP:SP=sp...;
```

Print signalling point data for specified signalling point identification

```
<C7SPP:SPID=spid;
```

Print subsystem supervision data for all signalling points

```
<C7SSP;
```

Print subsystem supervision data for specified signalling point

```
<C7SSP:SP=sp;
```

Print signalling points with supervision initiated in specified subsystem

```
<C7SSP:SSN=ssn;
```

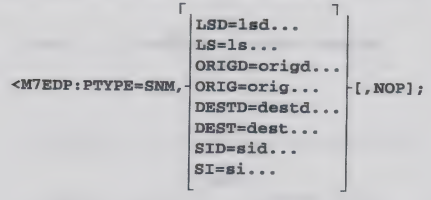
Print signalling terminal data

```
<C7STP:ST=st...;
```

Print signalling terminal state

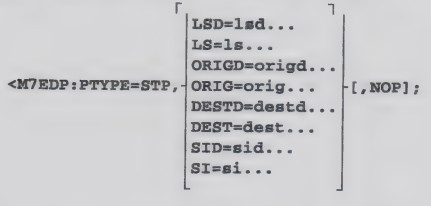
```
<C7TSP:ST=st...;
```

Print parameter values within specified domain or domain number for Switching Network Management (SNM) policing type



Note: The value ALL may be assigned to the parameters LSD, LS, ORIGD, ORIG, DESTD, DEST, SID, or SI.

Print parameter values within specified domain or domain number for Signalling Transfer Point (STP) policing type

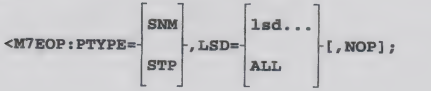


Note: The value ALL may be assigned to the parameters LSD, LS, ORIGD, ORIG, DESTD, DEST, SID, or SI.

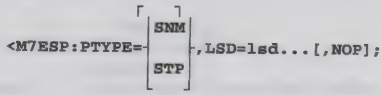
Print number of domains for both SNM and STP policing for either operating or non-operating table

<M7ENP[:NOP];

Print matching specification action and violation reporting for specified link set

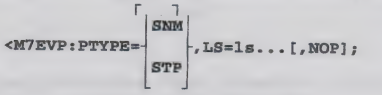


Print domain links to specified link set domain and policing type within operating or non-operating table




```
<M7ESP:PTYPE=SNM|STP,LSD=lsd...[,NOP];
```

Print policing values for specified link sets and policing type




```
<M7EVP:PTYPE=SNM|STP,LS=ls...[,NOP];
```

Print test values for policing parameters

```
<SPTSP;
```

2.15 TTC7 Commands (Japanese Market Only)

The following commands are used to evaluate the status of Telecommunication Technology Committee Number 7 (TTC7):

Print link set data
```
<J7LDP:LS=ls...;
```

Print parameter groups and their parameter values
```
<J7LPP;
```

Print link set state
```
<J7LTP:LS=ls...;
```

Print routing data for one or more signalling routes
```
<J7RSP:DEST=dest...;
```

Print routing data for specified link set
```
<J7RSP:LS=ls;
```

Print signalling point data for specified signalling points
```
<J7SPP:SP=sp...;
```

Print signalling point data for specified signalling point identification
```
<J7SPP:SPID=spid;
```

Print signalling terminal data
```
<J7STP:ST=st...;
```

Print signalling terminal state
```
<J7TSP:ST=st...;
```

3 Advanced Commands

The commands listed in this section should only be used by experienced personnel or within an established Operational Instruction (OPI).

3.1 Alarm Commands

The following commands are used for administration and maintenance of the Alarm Interface (ALI) and Mobile Services Switching Center (MSC) system alarms:

Deblock ALI

```
<ALBLE:ALI=ali;
```

Block ALI

```
<ALBLI:ALI=ali;
```

Reset external alarm receiver

```
<ALEXR:DEV=EXAL2-x;
```

Change periodic alarm list print time

```
<ALLTC:TIME=time;
```

End alarm panel test (in attended mode only)

```
<ALLTE:ALI=ali;
```

Initiate alarm panel test (in attended mode only)

```
<ALLTI:ALI=ali;
```

Change periodic alarm list print time (by alarm category)

```
<ALRTC:TIME=time,INTERVAL=interval,
       ALCAT=alcat...;
```

Deblock external alarm receiver

```
<BLEAE:DEV=EXAL2-x;
```

Block external alarm receiver

```
<BLEAI:DEV=EXAL2-x;
```

3.2 System Backup/Reload File Commands

The following commands are used to perform system backup and reload:

Change exchange name

```
<IOEXC:EXCHANGE=exchange;
```

Set time for large automatic dumps

```
<SYBTS:TIME=time,TDMI=tdmi;
```

End automatic dumps

```
<SYBUE;
```

Initiate automatic dumps

```
<SYBUI:DISC;
```

Print system dump

```
<SYBUP:FILE=RELFSWx;
```

Note: The volume must be loaded before the SYBUP command is issued.

Copy information from hard disk to optical disk

```
<SYMTP:SPG=SPG,NODE=node,IO2=OD-x,DIR=OUT,
      FILE1=RELFSWx;
```

Note: If the parameter DIR is set to IN, the command SYMTP copies from optical disk to hard disk.

Rotate (rename) reload files

```
<SYTUC;
```

3.3 Central Processor Commands

The following commands are used for administration and maintenance of the Central Processor (CP):

Halt CP-Standby (SB) side

```
<DPHAS;
```

Update CP-SB side and place both sides in parallel

```
<DPPAI;
```

Separate CP-SB side

```
<DPSES;
```

Switch CP sides

```
<DPSWI;
```

Initiate CP repair check (diagnostics and updating)

```
<RECCI;
```

Initiate CP manual intervention (CP repair instructions)

```
<REMCI:MAG=mag,PCB=pcb;
```

Initiate CP diagnostics

```
<REPCI;
```

End restart alarm (removes system restart alarm)

```
<SYRAE;
```

Caution!

The SYREI command can disrupt traffic.

Restart or reload AXE

```
                  ┌       ┐
                  │ SMALL │
<SYREI:RANK=-     │ LARGE ├-;
                  │ RELOAD│
                  └       ┘
```

3.4 MCS/DCS Commands

The following commands are used for administration and maintenance of the Man-Machine Communication Subsystem (MCS) and the Data Communication Subsystem (DCS):

Transfer printout queue from one Input/Output (I/O) device to another I/O device

```
<IOQUT:IO1=io1,IO2=io2;
```

3.5 Group Switch Commands

The following commands are used for administration and maintenance of the Group Switch Subsystem (GSS):

Deblock Group Switch (GS) connected Control Signalling Path (CSP)

```
<BLCPE:EMG=emg,PATH=path...;
```

Block GS connected CSP

```
<BLCPI:EMG=emg,PATH=path[,FORCEDBLOCK];
```

Disconnect Control Signalling Link (CSL) devices from Switching Network Terminal (SNT)

```
<EXCGE:DEV=dev...;
```

Connect CSL devices to SNT

```
<EXCGI:DEV=dev...;
```

Delete CSP between remote device and Extension Module Group (EMG)

```
<EXCPE:EMG=emg,PATH=path...;
```

Define CSP between remote device and EMG

```
<EXCPI:EMG=emg,┌                          ┐
               └ [DEVA=deva][,DEVB=devb] ┘;
```

Deblock group switch clock module

```
<GSBLE:CLM=clm;
```

Deblock group switch time switch module

```
<GSBLE:TSM=tsm;
```

Deblock group switch space switch module

```
<GSBLE:SPM=spm;
```

Block group switch clock module

```
<GSBLI:CLM=clm;
```

Block group switch time switch module

```
<GSBLI:TSM=tsm;
```

Block group switch space switch module

```
<GSBLI:SPM=spm;
```

Test group switch clock module

```
<GSTEI:CLM=clm;
```

Test group switch time switch module

```
<GSTEI:TSM=tsm;
```

Test group switch space switch module

```
<GSTEI:SPM=spm;
```

3.6 File Management Commands

The following commands are used for administration and maintenance of the File Management Subsystem (FMS):

End a started, but not completed, decompression task

```
<IMDCE;
```

Initiate decompression task

```
<IMDCI:FILE1=file1,FILE2=file2[,PRIO=prio];
```

Initiate file protection for specified file

```
<INPFI:FILE=file;
```

Remove file protection for specified file and all of its subfiles

```
<INPFR:FILE=file;
```

Temporarily remove file protection for specified subfile

```
<INPFR:FILE=file-sub[,TIME=time];
```

Define composite or simple file to Adjunct Processor File Processing (AFP)

```
afpdef [-d remove_delay] cpfile destination
```

Define UNIX file to AFP

```
afpdef -u [-d remove_delay] unixfile
       destination
```

Report subfile to AFP

```
afprep file-subfile[-generation]
```

Delete composite or simple file from AFP

```
afprm file[-subfile[-generation] [destination]]
```

Delete UNIX file from AFP

```
afprm unixfile
```

Change maximum size of infinite file

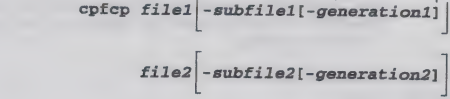
```
cpfchange -s maxsize file
```

Change maximum active time of infinite file

```
cpfchange -t maxtime file
```

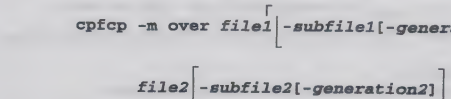
Change release condition of infinite file

Copy Central Processor (CP) file to another CP file



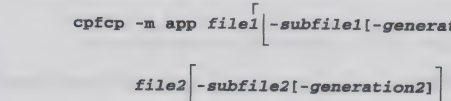
Note: When copying to a simple file, the simple file must already exist. When copying to a composite file, the main file must already exist. If the destination file already exists, the option -m must be specified.

Copy Central Processor (CP) file to another CP file in overwrite mode



Note: When copying to a simple file, the simple file must already exist. When copying to a composite file, the main file must already exist. If the destination file already exists, the option -m must be specified.

Copy Central Processor (CP) file to another CP file in append mode



Note: When copying to a simple file, the simple file must already exist. When copying to a composite file, the main file must already exist. If the destination file already exists, the option -m must be specified.

Copy Central Processor (CP) file to another CP file in clear mode

```
cpfcp -m clr file1[-subfile1[-generation1]]

      file2[-subfile2[-generation2]]
```

Note: When copying to a simple file, the simple file must already exist. When copying to a composite file, the main file must already exist. If the destination file already exists, the option -m must be specified.

Change active subfile of infinite file

```
cpfife file
```

Create simple or composite main file

```
cpfmkfile [-f reg] -l rlength [-c] file volume
```

Note: The volume where the file is created must already exist.

Create infinite file

```
cpfmkfile -f inf -l rlength [-s maxsize]
          [-t maxtime] [-r] file volume
```

Note: The volume where the file is created must already exist.

Create subfile

```
cpfmkfile file-subfile[-generation]
```

Note: The volume where the file is created must already exist.

Move CP file to another volume

```
cpfmv file volume
```

Copy (export) CP file to physical file path

```
cpfport -e file[-subfile[-generation]] path
```

Copy (export) CP file to physical file path in overwrite mode

```
cpfport -e -m over file[-subfile[-generation]]

      path
```

Copy (export) CP file to physical file path in append mode

```
cpfport -e -m app file[-subfile[-generation]]
        path
```

Copy (export) CP file to physical file path in clear mode

```
cpfport -e -m clr file[-subfile[-generation]]
        path
```

Copy (import) physical file or directory to CP file

```
cpfport -i path file[-subfile[-generation]]
```

Copy (import) physical file or directory to CP file in overwrite mode

```
cpfport -i -m over path
        file[-subfile[-generation]]
```

Copy (import) physical file or directory to CP file in append mode

```
cpfport -i -m app path
        file[-subfile[-generation]]
```

Copy (import) physical file or directory to CP file in clear mode

```
cpfport -i -m clr path
        file[-subfile[-generation]]
```

Rename file

```
cpfrename file1 file2
```

Rename subfile

```
cpfrename file-subfile1[-generation1]
          file-subfile2[-generation2]
```

Note: The new subfile name must include the main file part of the old subfile name.

Delete simple or composite file

```
cpfrm [-r] file
```

Delete subfile

```
cpfrm file-subfile[-generation]
```

3.7 Subscriber Switching Commands

The following commands are used for administration and maintenance of the Subscriber Switching Subsystem (SSS):

Deblock control link

```
<BLCLE:EQM=CLC-x;
```

Block control link

```
<BLCLI:EQM=CLC-x;
```

Deblock devices

```
<BLODE:DEV=dev...;
```

Block devices

```
<BLODI:DEV=dev...;
```

Tear down all calls associated with specified subscriber number

```
<CWSNI:SNB=snb;
```

Tear down all calls associated with specified mobile subscriber number

```
<CWSNI:MSNB=msnb;
```

Tear down all calls associated with specified International Mobile Station Identity (IMSI)

```
<CWSNI:IMSI=imsi;
```

Initiate Extension Module Group (EMG) repair after Printed Circuit Board (PCB) replacement

```
<RECEI:EMG=emg,EMRP=x-A;
```

Initiate EMG manual intervention (blocking)

```
                    ┌                    ┐
                    │ MAG=EM-n,PCB=pcb   │
                    │ MAG=STR-A,PCB=pcb  │
                    │ MAG=STR-B,PCB=pcb  │
                    │ MAG=RPBC-n,PCB=pcb │
<REMEI:EMG=emg,     │ MAG=ETC-block-n    │ ;
                    │ MAG=MODEMC-A       │
                    │ MAG=MODEMC-B       │
                    │ MAG=MODEMR-A       │
                    │ MAG=MODEMR-B       │
                    └                    ┘
```

Initiate EMG diagnosis

```
<REPEI:EMG=emg,EMRP=x-A;
```

Initiate EMG diagnosis

```
<REPEI:EMG=emg,STR=str;
```

3.8 Mobile Telephony Commands

The following commands are used for administration and maintenance of mobile telephony functions:

Remove Base Station Controller (BSC) from Code Division Multiple Access (CDMA) Mobile Services Switching Center (MSC)

```
<MMBSE:BSC=bsc;
```

Define BSC for CDMA MSC

```
<MMBSI:BSC=bsc,R1=r1,R2=r2;
```

Remove cell from CDMA MSC

```
<MMCEE:CELL=cell;
```

Define cell for CDMA MSC

```
<MMCEI:CELL=cell,CGI=cgi,BSC=bsc;
```

Remove Location Area Identity (LAI) from CDMA MSC

```
<MMLAE:LAI=lai;
```

Define LAI for CDMA MSC

```
<MMLAI:LAI=lai;
```

Change CDMA exchange functions for own node

```
<MMOEC:GLEXM=glexm,FUNCT=funct...;
```

Change own exchange identifier

```
<MMOEC:OWNID=ownid,GLEXM=glexm;
```

Delete own exchange identifier

```
<MMOEC:DOWNID,GLEXM=glexm;
```

Define CDMA own exchange

```
<MMOEI:GLEXM=glexm[,OWNID=ownid]
       [,FUNCT=funct...];
```

Change A-subscriber and B-subscriber traffic class combination status

```
<MSTMC:TCLA=tcla,TCLB=tclb,STATUS=status;
```

Activate changed International Mobile Station Identity (IMSI) analysis data

```
<MTIAI[:TIME=time];
```

Reset activation or time-ordered activation of IMSI analysis data

```
<MTIAR;
```

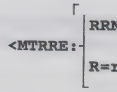
Disconnect one or several roamer routing numbers

```
<MTRNE:RRNB=rrnb...;
```

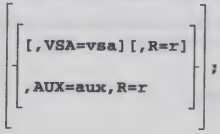
Connect one or several roamer routing numbers

```
<MTRNI:RRNB=rrnb...;
```

Delete roamer routing number series



Specify roamer routing number series

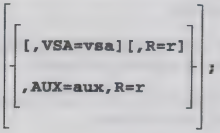


Specify internal roamer routing number series

<MTRRI:RRNBS=rrnbs,TYPE=INT[,OBA=oba][,R=r];

Specify roamer routing number series

<MTRRI:RRNBS=rrnbs,TYPE=EXT



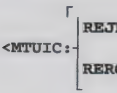
Remove serial numbers from barring list

<MTSBE:SRNB=srnb...;

Insert serial numbers into barring list

<MTSBI:SRNB=srnb...;

Change unidentified IMSI call handling



3.9 RP/EM Commands

The following commands are used for administration and maintenance of Regional Processor (RP) and Extension Module (EM) functions:

Deblock EM

```
<BLEME:RP=rp,RPT=rpt,EM=em;
```

Block EM

```
<BLEMI:RP=rp,RPT=rpt,EM=em;
```

Note: All devices under the EM must be blocked before the EM can be blocked.

Deblock RP

```
<BLRPE:RP=rp;
```

Block RP

```
<BLRPI:RP=rp;
```

Initiate EM repair check

```
<RECRI:RP=rp,EM=em;
```

Initiate RP repair check

```
<RECRI:RP=rp;
```

Initiate EM manual intervention (EM repair instructions)

```
<REMRI:RP=rp,EM=em,PCB=pcb;
```

Initiate RP manual intervention (RP repair instructions)

```
<REMRI:RP=rp,PCB=pcb;
```

Initiate EM repair diagnostics

```
<REPRI:RP=rp,EM=em;
```

Initiate RP repair diagnostics

```
<REPRI:RP=rp;
```

3.10 Adjunct Processor Commands

The following commands are used for administration and maintenance of the Adjunct Processor (AP) and the Adjunct Computer Subsystem (ACS):

Delete AP from AP maintenance table

```
<APAME:AP=ap;
```

Define AP in AP maintenance table

```
<APAMI:AP=ap;
```

Initiate AP local mode

```
<APLOC;
```

Note: This command is only available from Input/Output (I/O) devices connected to the AP.

Print parameters used for backup generation and command log handling

```
bupprint [-a] [-c] [-d] [-l] [-m] [-s]
```

Set parameters used for backup generation and command log handling

```
bupset [-f] [-r] [-1 INCL1] [-2 INCL2]
       [-c NTCZ] [-d INCLA]
       [-m CLH] [-o LOAZ]
       [-s SUP] [-t NTAZ]
```

Backup system to Digital Audio Tape (DAT)

```
burpup
```

Restore contents of DAT to system

```
burres [primary_disk_device mirror_disk_device]
```

Verify backup tape

```
burver
```

Collect information for trouble report and assemble it into a tar file

```
mktr YYMMDD-hhmm
```

Initiate process control utility session

prcutil

Note: When the command prcutil is entered with no parameters, a dialog session starts. The following subcommands may be entered during a prcutil dialog session:

- H lists the available subcommands and their syntax.

Note: A subcommand may be specified as an argument to the H subcommand, to list the syntax of the specified subcommand

- K kills a specified process group if the process group is running.
- L lists information about active process groups.
- Q exits the prcutil dialog session.
- P halts the AP for power down.
- B reboots the AP.
- R restarts a process group if the process group is restartable.
- S starts a process group that is not already running.

List information about process control subcommands

prcutil H [*command*]

Start specified process group

prcutil S *process_group_name*

Kill specified process group

prcutil K *process_group_name*

Reboot AP

prcutil B

Note: Enter yes when prompted to start the reboot or no to cancel the reboot.

Restart specified process group

prcutil R *process_group_name*

Halt AP for power down

prcutil P

Note: Enter yes when prompted to halt the AP or no to cancel halting for power down.

List information about process groups

prcutil L [*process_group_name*]

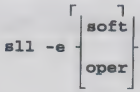
List all events in event log

sll

List events in event log that occurred in specific time interval

sll -t *start_time* -x *stop_time*

List events in event log that belong to specified event class



List events in event log that belong to specified process name

```
sll -r process_name
```

List events in event log that have specified perceived severity

```
sll -s perceived_severity
```

List events in event log that belong to specified object

```
sll -o object_of_reference
```

List events in event log that belong to specified object class

```
sll -c object_class
```

List events in event log that have specified probable cause

```
sll -b probable_cause
```

List events of event log caused by specified problem

```
sll -f specific_problem
```

3.11 Trunk and Signalling Commands

The following commands are used for administration and maintenance of the Trunk and Signalling Subsystem (TSS):

Deblock signalling link

```
<BLCLE:EQM=CLC-x;
```

Block signalling link

```
<BLCLI:EQM=CLC-x;
```

Deblock trunk or remote terminal

```
<BLODE:DEV=dev;
```

Block trunk or remote terminal

```
<BLODI:DEV=dev;
```

Deblock Digital Path (DIP)

```
<DTBLE:DIP=dip...;
```

Block DIP

```
<DTBLI:DIP=dip...;
```

Remove specified DIP

```
<DTDIE:DIP=dip...;
```

Specify digital path name and connect DIP to Switching Network Terminal (SNT)

```
<DTDII:DIP=dip,SNT=snt[,DIPP=dipp]
       [,DIPNUM=dipnum];
```

Specify initial data for Exchange Terminal Circuit (ETC)

```
<DTIDC:DIP=dip...[,LC=lc][,INACT=inact]
       [,MODE=mode][,REFTR=reftr]
       [,MULTFS=multfs][,CRC=crc]
       [,QSUP=qsup][,FRS=frs][,HLC=hlc]
       [,NLP=nlp][,EPD=epd][,SBITS=sbits]
       [,SEC=sec][,STC=stc][,PRM=prm];
```

Connect Echo Canceller in Pool (ECP) individuals to dedicated pool

```
<EPDPC:ECPV=ecpv,DPSIZE=dpsize;
```

Change previously defined individual parameter set

```
<EPPSC:IPAR=ipar...[,EPD=epd][,NLP=nlp]
                   [,TDM=tdm][,LAW=law];
```

Delete individual parameter sets

```
<EPPSE:IPAR=ipar...;
```

Create individual parameter set

```
<EPPSI:IPAR=ipar[,EPD=epd][,NLP=nlp][,LAW=law];
```

Change individual parameter set for semipermanently connected devices

```
<EPSCC:IPAR=ipar,DEV=dev...;
```

Disconnect semipermanently connected devices from individual parameter set

```
<EPSCE:DEV=dev...;
```

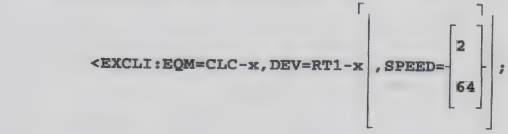
Connect semipermanently connected devices to individual parameter set

```
<EPSCI:IPAR=ipar,DEV=dev...;
```

End or remove signalling link

```
<EXCLE:EQM=CLC-x;
```

Connect signalling link to Remote Terminal 1 (RT1) device



Print control signalling link data

```
<EXCLP:EQM=eqm...;
```

Change route name

```
<EXRNC:R1=r1,R2=r2;
```

Set alarm class for Digital Circuit Multiplication Equipment (DCME) function

```
<MUACC:ALARM=alarm,ACL=acl;
```

Deblock devices connected to DCME positions

```
<MUBLE:DSN=dsn,DPN=dpn...;
```

Deblock DCME connected DIPs

```
<MUBLE:DIP=dip...;
```

Block devices connected to DCME positions

```
<MUBLI:DSN=dsn,DPN=dpn...[,FREL];
```

Block DCME connected DIPs

```
<MUBLI:DIP=dip...[,FREL];
```

Disconnect DCME position from DIP

```
<MUCOE:DSN=dsn,DPN=dpn...;
```

Disconnect DIP from DCME position

```
<MUCOE:DIP=dip...;
```

Connect DCME position to DIP

```
<MUCOI:DSN=dsn,DPN=dpn,DIP=dip[,DMODE=dmode,
      CRS=crs];
```

Deblock SNT

```
<NTBLE:SNT=snt;
```

Block SNT

```
<NTBLI:SNT=snt;
```

Initiate SNT Test

```
<NTTEI:SNT=snt;
```

3.12 SS7 Commands

The following commands are used for administration and maintenance of Signalling System Number 7 (SS7):

Change trapping parameters for Signalling Network on Occurrence of Autonomous Message (SNOAM) reports

```
<S7AMC:RPT=rpt,EVENTS=events,TDM=tdm;
```

Reset trapping parameters for SNOAM reports to default values

```
<S7AMC:RPT=rpt,DEFAULT;
```

Change level of activity thresholds, used when reporting gateway screening activity for specified link set

```
<S7ATC:LS=ls[,MTHRESH=mthresh]
           [,RTHRESH=rthresh],TDM=tdm;
```

Change level of activity thresholds, used when reporting gateway screening activity for specified link set name

```
<S7ATC:LSN=lsn[,MTHRESH=mthresh]
              [,RTHRESH=rthresh],TDM=tdm;
```

Delete one or more capability codes assigned to own signalling point

```
<S7CCE:CAPC=capc...;
```

Define one or more capability codes assigned to own signalling point

```
<S7CCI:CAPC=capc...;
```

End concerned relationship between specified signalling points and subsystem

```
<S7CPE:SP=sp,SSN=ssn,CSP=csp...;
```

End concerned relationship between specified signalling points and local subsystem

```
<S7CPE:LSS=lss,CSP=csp...;
```

Define one or more signalling points as concerned for specified subsystem

```
<S7CPI:SP=sp,SSN=ssn,CSP=csp...;
```

Define one or more signalling points as concerned for specified local subsystem

```
<S7CPI:LSS=lss,CSP=csp...;
```

Zero specified group of counters

```
<S7CZI:GROUP=group;
```

Change alarm class and time delay for SS7 DESTINATION INACCESSIBLE alarm, used for supervision of destination point accessibility

```
<S7DSC:DEST=dest[,ACL=acl][,TDMI=tdmi]
       [,TDS=tds];
```

End supervision of routing accessibility of specified destination points

```
<S7DSE:DEST=dest...;
```

Initiate supervision of routing accessibility of destination point and define alarm class and time delay for SS7 DESTINATION INACCESSIBLE alarm

```
<S7DSI:DEST=dest...[,ACL=acl][,TDMI=tdmi]
       [,TDS=tds];
```

Delete global title routing case

```
<S7GCE:GTRC=gtrc;
```

Define global title routing case for messages routed to signal point

```
<S7GCI:GTRC=gtrc,RI=GT,PSP=psp[,SSP=ssp];
```

Define global title routing case for messages routed to subsystem

```
<S7GCI:GTRC=gtrc,RI=SS,PSP=psp,PSSN=pssn
       [,SSP=ssp,SSSN=sssn[,ROC=roc]];
```

Change link set group identifier of specified gateway screening link set

```
<S7GLC:LS=ls,LSG=lsg;
```

Change link set group identifier of gateway screening link set specified for specified link set name

```
<S7GLC:LSN=lsn,LSG=lsg;
```

Change attributes of specified gateway screening link set to allow all messages received on link set

```
<S7GLC:LS=ls,NSFI=ALLOW;
```

Change attributes of gateway screening link set to allow all messages received on link set for specified link set name

```
<S7GLC:LSN=lsn,NSFI=ALLOW;
```

Change next screening function identifier of specified gateway screening link set

```
<S7GLC:LS=ls,NSFI=nsfi,NSR=nsr;
```

Change next screening function identifier of gateway screening link set for specified link set name

```
<S7GLC:LSN=lsn,NSFI=nsfi,NSR=nsr;
```

Remove specified link set as gateway screening link set

```
<S7GLE:LS=ls;
```

Remove link set with specified link set name as gateway screening link set

```
<S7GLE:LSN=lsn;
```

Define specified link set as gateway screening link set with specified link set group

```
<S7GLI:LS=ls,LSG=lsg;
```

Define link set with specified link set name as gateway screening link set with specified link set group

```
<S7GLI:LSN=lsn,LSG=lsg;
```

Define specified link set as gateway screening link set that allows all messages received on link set

```
<S7GLI:LS=ls[,LSG=lsg],NSFI=ALLOW;
```

Define link set with specified link set name as gateway screening link set that allows all messages received on link set

```
<S7GLI:LSN=lsn[,LSG=lsg],NSFI=ALLOW;
```

Define specified link set as gateway screening link set with specified next screening function identifier

```
<S7GLI:LS=ls[,LSG=lsg],NSFI=nsfi,NSR=nsr;
```

Define link set with specified link set name as gateway screening link set with specified next screening function identifier

```
<S7GLI:LSN=lsn[,LSG=lsg],NSFI=nsfi,NSR=nsr;
```

End local inhibiting of signalling link in link set

```
<S7IHE:LS=ls,SLC=slc;
```

Initiate local inhibiting of signalling link in link set

```
<S7IHI:LS=ls,SLC=slc;
```

Deactivate specified signalling link

```
<S7LAE:LS=ls,SLC=slc[,FORCE];
```

Activate specified signalling link

```
<S7LAI:LS=ls,SLC=slc;
```

End Local Number Portability (LNP) Message Relay function for specified service

```
<S7LRE:SERVICE=service;
```

Initiate LNP Message Relay function for specified service

```
<S7LRI:SERVICE=service;
```

Change link set name

```
<S7LSC:LSN=lsn,NLSN=nlsn;
```

Change link set attributes

```
<S7LSC:LSN=lsn[,LS=ls][,FCLLI=fclli][,LST=lst]
      [,BIND=bind];
```

Delete specified link sets

```
<S7LSE:LS=ls...;
```

Delete specified link set name

```
<S7LSE:LSN=lsn;
```

Define a link set with its assigned far-end Common Language Location Identifier (CLLI), far-end signalling point code, and link set attributes

```
<S7LSI:LS=ls,LSN=lsn,FCLLI=fclli,LST=lst
      [,BIND=bind];
```

End mated relationship between two network subsystems

```
<S7MSE:SP=sp,SSN=ssn;
```

End mated relationship between network subsystem and local subsystem

```
<S7MSE:LSS=lss;
```

Initiate mated relationship between two network subsystems

```
<S7MSI:SP=sp,SSN=ssn,MSP=msp,MSSN=mssn;
```

Initiate mated relationship between network subsystem and local subsystem

```
<S7MSI:LSS=lss,MSP=msp,MSSN=mssn;
```

End signalling network monitor for specified destinations or link sets or both

```
<S7NME;
```

Initiate signalling network monitor for specified link sets defined in Message Transfer Protocol (MTP) network

```
<S7NMI:IO=io,LS=ls...[,TDMI=tdmi][,NREG=nreg];
```

Initiate signalling network monitor for specified destination points defined in MTP network

```
<S7NMI:IO=io,DEST=dest...[,LS=ls][,TDMI=tdmi]
      [,NREG=nreg];
```

Delete one or more signalling points defined in Signalling Connection Control Part (SCCP) network

```
<S7NPE:SP=sp...;
```

Initiate one or more signalling points defined in SCCP network

```
<S7NPI:SP=sp...;
```

Delete one or more subsystem numbers for signalling point in SCCP network

```
<S7NSE:SP=sp,SSN=ssn...;
```

Define one or more subsystem numbers for signalling point in SCCP network

```
<S7NSI:SP=sp,SSN=ssn...;
```

Delete own signalling point

```
<S7OPE;
```

Define identity of own service control point in terms of own signalling point code and common language location identifier

```
<S7OPI:OWNSCP=ownscp,SCPCLLI=scpclli
      [,OWNSTP=ownstp,STPCLLI=stpclli];
```

Define identity of own service switching point in terms of own signalling point code and common language location identifier

```
<S7OPI:OWNSSP=ownssp,SSPCLLI=sspclli
      [,OWNSTP=ownstp,STPCLLI=stpclli];
```

End Originating Point Code (OPC) replacement in outgoing messages

```
<S7ORE;
```

Initiate OPC replacement in outgoing messages when Destination Point Code (DPC) equals signalling point

```
<S7ORI:SP=sp,CAPC=capc;
```

Change signalling link parameters for specified parameter group

```
<S7PGC:SLPARMG=slparmg[,T1=t1][,T2=t2][,T3=t3]
      [,T4E=t4e][,T4N=t4n][,T5=t5][,T6=t6]
      [,T7=t7][,TIN=tin][,TIE=tie][,M=m][,N=n]
      [,T=t][,D=d][,TA=ta][,TT=tt][,ERC=erc]
      [,SEMIC=semic][,CDL1=cdl1][,CDL2=cdl2]
      [,CDL3=cdl3];
```

Delete signalling routes to specified destination with specified priority

```
<S7RSE:DEST=dest,PRIO=prio;
```

Delete signalling routes to specified destination and link set

```
<S7RSE:DEST=dest,LS=ls;
```

Define signalling routes for messages destined for given destination point to designated outgoing link sets

```
<S7RSI:DEST=dest...,PRIO=prio,LS=ls[&ls];
```

Change signalling link supervision data

```
<S7SLC:LS=ls,SLC=slc[,ACL=acl][,ACO=aco]
        [,NACK=nack][,SUERR=suerr]
        [,ATEST=atest];
```

Delete specified signalling link from link set

```
<S7SLE:LS=ls,SLC=slc;
```

Define signalling link in link set

```
<S7SLI:LS=ls,SLC=slc,ST=st[,SLPARMG=slparmg]
      [,ACL=acl][,ACO=aco][,NACK=nack]
      [,SUERR=suerr];
```

Delete one or more signalling points in MTP network

```
<S7SPE:SP=sp...;
```

Define one or more signalling points in MTP network

```
<S7SPI:SP=sp...;
```

Delete type and bit rate for given signalling terminal

```
<S7STE:ST=st;
```

Define digital signalling terminal with Digital Stream 0 (DS0)-A interface

```
<S7STI:ST=st,TYPE=DS0A;
```

Define digital signalling terminal with V.35 interface

```
<S7STI:ST=st,TYPE=DV35;
```

Define digital signalling terminal with G.703 interface

```
<S7STI:ST=st,TYPE=DG703;
```

Define digital signalling terminal with V.24 interface

```
<S7STI:ST=st,TYPE=AV24,DRS=drs,BITRATE=bitrate;
```

Define digital signalling terminal with group switch interface

```
<S7STI:ST=st,TYPE=DPRG;
```

Activate not operating global title area immediately

```
<S7TAI;
```

Activate not operating global title area at specified time

```
<S7TAI:TIME=time;
```

Reset global title areas

```
<S7TAR;
```

Copy operating global title area to not operating global title area

```
<S7TCI;
```

Initiate diagnostics for specified signalling terminal

```
<S7TDI:ST=st[,SLPARMG=slparmg];
```

Delete global title series from global title not operating area

```
<S7TSE:GTS=gts[,OLD];
```

Define global title series and its translation result in global title not operating area for specified global title routing case

```
<S7TSI:GTS=gts,GTRC=gtrc[,OLD];
```

Define global title series and its translation result in global title not operating area for specified local subsystem

```
<S7TSI:GTS=gts,LSS=lss[,OLD];
```

Zero entire not operating global title area

```
<S7TZI;
```

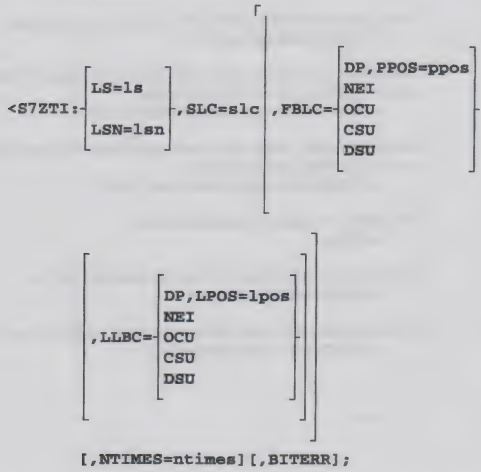
End manual signalling data link test for specified link set

```
<S7ZTE:LS=ls,SLC=slc;
```

End manual signalling data link test for specified link set name

```
<S7ZTE:LSN=lsn,SLC=slc;
```

Initiate manual signalling data link test which is automatically looped back over specific components




```
<S7ZTI:LS=ls|LSN=lsn,SLC=slc[,FBLC=DP,PPOS=ppos|NEI|OCU|CSU|DSU][,LLBC=DP,LPOS=lpos|NEI|OCU|CSU|DSU]
[,NTIMES=ntimes][,BITERR];
```

Initiate manual signalling data link test on component that has been looped back manually for specified link set using 511 bit pseudorandom pattern

```
<S7ZTI:LS=ls,SLC=slc,TP=511,ESTH=esth,ETH=eth,
TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set name using 511 bit pseudorandom pattern

```
<S7ZTI:LSN=lsn,SLC=slc,TP=511,ESTH=esth,ETH=eth,
TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set using 2047 bit pseudorandom pattern

```
<S7ZTI:LS=ls,SLC=slc,TP=2047,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set name using 2047 bit pseudorandom pattern

```
<S7ZTI:LSN=lsn,SLC=slc,TP=2047,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set using repeated pattern type C

```
<S7ZTI:LS=ls,SLC=slc,TP=C,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set name using repeated pattern type C

```
<S7ZTI:LSN=lsn,SLC=slc,TP=C,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set using repeated pattern type D

```
<S7ZTI:LS=ls,SLC=slc,TP=D,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set name using repeated pattern type D

```
<S7ZTI:LSN=lsn,SLC=slc,TP=D,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set using specified pattern

```
<S7ZTI:LS=ls,SLC=slc,TP=tp,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

Initiate manual signalling data link test on component that has been looped back manually for specified link set name using specified pattern

```
<S7ZTI:LSN=lsn,SLC=slc,TP=tp,ESTH=esth,ETH=eth,
      TTD=ttd[,BITERR];
```

Note: The value of the parameters ESTH and ETH may be set to NO.

3.13 CCITT7 Commands

The following commands are used for administration and maintenance of Consultative Committee for International Telegraph and Telephone Number 7 (CCITT7):

Set specified signalling point as concerned

```
<C7BSC:SP=sp,SSN=ssn,CON;
```

Set specified signalling point as not concerned

```
<C7BSC:SP=sp,SSN=ssn,NCON;
```

Reset compatibility violation alarm

```
                ┌    ┐                  ┌       ┐
<C7CAR:MSGTYPE=─┤ TH ├─,ALMCASE=─┤ LONGMSG ├;
                └VMAX┘                  └CONFMSG┘
```

Set or change disturbance supervision data for specified event numbers

```
                                  ┌                          ┐
<C7DSC:ENUM=enum...─┤ [,DST=dst][,DELAY=delay]
                    └ [,ACL=acl] ┘;
```

End disturbance supervision for specified event numbers

```
<C7DSE:ENUM=enum...;
```

Initiate disturbance supervision for specified event numbers

```
<C7DSI:ENUM=enum...;
```

Reset disturbance supervision alarm for specified event numbers

```
<C7DSR:ENUM=enum...;
```

End event reporting for specified event numbers

```
<C7ERE:ENUM=enum...[,NP];
```

Initiate event reporting for specified event numbers

```
<C7ERI:ENUM=enum...;
```

Reset alarms for specified event numbers

```
<C7ERR:ENUM=enum...[,NP];
```

End inhibiting of signalling link in specified link set

```
<C7IHE:LS=ls,SLC=slc;
```

Initiate inhibiting of signalling link in specified link set

```
<C7IHI:LS=ls,SLC=slc;
```

Deactivate signalling link in specified link set

```
<C7LAE:LS=ls,SLC=slc;
```

Activate signalling link in specified link set

```
<C7LAI:LS=ls,SLC=slc;
```

Remove link sets

```
<C7LDE:LS=ls...;
```

Define link sets

```
<C7LDI:LS=ls...;
```

Change Message Transfer Part (MTP) restart link set data for specified link sets

```
<C7MRC:LS=ls...,RESTART=restart;
```

Note: The MTP restart link set data cannot be changed while a MTP restart is in progress for the network in which the specified link set is defined.

Change Message Transfer Part (MTP) restart link set data for specified Adjacent Signalling Point (ASP)

```
<C7MRC:ASP=asp...,RESTART=restart;
```

Note: The MTP restart link set data cannot be changed while a MTP restart is in progress for the network in which the specified associated ASP is defined.

Change broadcast status of signalling point in SCCP network to concerned

```
<C7NPC:SP=sp,CON;
```

Change broadcast status of signalling point in SCCP network to not concerned

```
<C7NPC:SP=sp,NCON;
```

Delete signalling points from SCCP network

```
<C7NPE:SP=sp...;
```

Define signalling point in SCCP network

```
<C7NPI:SP=sp;
```

Define concerned signalling point in SCCP network

```
<C7NPI:SP=sp,CON;
```

Define not concerned signalling point in SCCP network

```
<C7NPI:SP=sp,NCON;
```

Enable subsystem status test

```
<C7NSC:SP=sp,SSN=ssn,SST;
```

Disable subsystem status test

```
<C7NSC:SP=sp,SSN=ssn,NSST;
```

Enable Global Title (GT) suppression

```
<C7NSC:SP=sp,SSN=ssn,GTSUP;
```

Disable GT suppression

```
<C7NSC:SP=sp,SSN=ssn,NGTSUP;
```

Change own signalling point MTP restart parameters

```
<C7OPC:NI=ni[,T18=t18][,T20=t20][,T21=t21]
[,PTRA=ptra][,PSL=psl];
```

Remove own signalling point

```
<C7OPE:OWNSP=ownsp;
```

Define own signalling point

```
<C7OPI:OWNSP=ownsp;
```

Define own signalling point as Signalling Transfer Point (STP)

```
<C7OPI:OWNSP=ownsp,SPTYPE=STP;
```

Define own signalling point as Signalling Ending Point (SEP)

```
<C7OPI:OWNSP=ownsp,SPTYPE=SEP;
```

Define or change signalling point identification string for specified signalling point

```
<C7PNC:SP=sp,SPID=spid;
```

Define or change signalling point identification string for specified own signalling point

```
<C7PNC:OWNSP=ownsp,SPID=spid;
```

Deactivate signalling traffic routing to destination

```
<C7RAE:DEST=dest[,LS=ls];
```

Activate signalling traffic routing to destination

```
<C7RAI:DEST=dest[,LS=ls];
```

Remove one or more signalling routes from routing data

```
<C7RSE:DEST=dest...,LS=ls;
```

Add one or more signalling routes to routing data

```
<C7RSI:DEST=dest...,LS=ls,PRIO=prio;
```

Add one or more signalling routes to routing data with specified load sharing bit

```
<C7RSI:DEST=dest...,LS=ls,PRIO=prio,LSHB=lshb;
```

Add one or more signalling routes to routing data with extended load sharing

```
<C7RSI:DEST=dest...,LS=ls,PRIO=prio,LSHB=EXT;
```

End restriction of traffic from specified signalling points to specified local subsystem

```
<C7RTE:LSSN=lssn,NI=ni,SPC=spc...;
```

Initiate restriction of traffic from specified signalling points to specified local subsystem

```
<C7RTI:LSSN=lssn,NI=ni,SPC=spc...;
```

Disconnect signalling terminals from devices in multiplexer

```
<C7SDE:DEV=dev...;
```

Connect signalling terminal to device in multiplexer

```
<C7SDI:DEV=dev,ST=st;
```

Remove signalling link

```
<C7SLE:LS=ls,SLC=slc;
```

Define signalling link

```
<C7SLI:LS=ls,SLC=slc,ST=st[,PARMG=parmg]
       [,ACL=acl][,SDL=sdl];
```

Remove one or more signalling points from their corresponding networks

```
<C7SPE:SP=sp...;
```

Define one or more signalling points in their corresponding networks

```
<C7SPI:SP=sp...[,OWNSP=ownsp];
```

End subsystem supervision

```
<C7SSE:┌SP=sp,SSN=ssn...┐;
       └SP=sp...,SSN=ssn┘
```

Initiate subsystem supervision

```
<C7SSI:┌SP=sp,SSN=ssn...┐;
       └SP=sp...,SSN=ssn┘
```

Delete signalling terminal

```
<C7STE:ST=st;
```

Define interface type for signalling terminal

```
<C7STI:ST=st,ITYPE=itype;
```

Switch operating and non-operating tables for enhanced Signalling Network Management (SNM) MTP policing

```
<M7EAI:PTYPE=SNM;
```

Switch operating and non-operating tables for enhanced STP MTP policing

```
<M7EAI:PTYPE=STP;
```

Reset operating and non-operating tables for enhanced SNM MTP policing

```
<M7EAR:PTYPE=SNM;
```

Copy operating table to non-operating table for enhanced STP MTP policing

```
<M7ECI:PTYPE=STP;
```

Remove specified parameters from SNM policing domain

```
                          ┌                                  ┐
                          │LS=ls...,LSD=lsd                  │
                          │ORIG=orig...,ORIGD=origd          │
<M7EDE:PTYPE=SNM,─────────┤DEST=dest...,DESTD=destd          ├─;
                          │HCODE=hcode...,HCODED=hcoded      │
                          │CDEST=cdest...,CDESTD=cdestd      │
                          └                                  ┘
```

Note: The value ALL may be assigned to the parameters LS, ORIG, DEST, HCODE, or CDEST.

Remove specified parameters from Signalling Transfer Point (STP) policing domain

```
                          ┌                          ┐
                          │LS=ls...,LSD=lsd          │
<M7EDE:PTYPE=STP,─────────┤ORIG=orig...,ORIGD=origd  ├─;
                          │DEST=dest...,DESTD=destd  │
                          └                          ┘
```

Note: The value ALL may be assigned to the parameters LS, ORIG, DEST, or SI.

Define specified parameters for SNM policing domain

```
<M7EDI:PTYPE=SNM,[LS=ls...,LSD=lsd
                 ORIG=orig...,ORIGD=origd
                 DEST=dest...,DESTD=destd
                 HCODE=hcode...,HCODED=hcoded
                 CDEST=cdest...,CDESTD=cdestd];
```

Note: The value OTHERS may be assigned to the parameters LS, ORIG, DEST, HCODE, or CDEST.

Define specified parameters for STP policing domain

```
<M7EDI:PTYPE=STP,[LS=ls...,LSD=lsd
                 ORIG=orig...,ORIGD=origd
                 DEST=dest...,DESTD=destd
                 SI=si...,SID=sid];
```

Note: The value OTHERS may be assigned to the parameters LS, ORIG, DEST, or SI.

Remove protection period for SNM MTP policing type

```
<M7ELI:PTYPE=SNM;
```

Note: This command should only be used if there is no time to wait for the protection period to automatically clear.

Remove protection period for STP MTP policing type

```
<M7ELI:PTYPE=STP;
```

Note: This command should only be used if there is no time to wait for the protection period to automatically clear.

Set number of domains for SNM policing

```
<M7ENC:PTYPE=SNM,NLSD=nlsd,NORIGD=norigd,
       NDESTD=ndestd,NHCODED=nhcoded,
       NCDESTD=ncdestd;
```

Set number of domains for STP policing

```
<M7ENC:PTYPE=STP,NLSD=nlsd,NORIGD=norigd,
       NDESTD=ndestd,NSID=nsid;
```

Set matching specification for SNM to allow message signal unit if it matches policing specification

```
<M7EOC:PTYPE=SNM,LSD=lsd...,ACTION=ALLOW;
```

Set matching specification for SNM to disallow message signal unit if it matches policing specification

```
<M7EOC:PTYPE=SNM,LSD=lsd...,ACTION=DISALLOW;
```

Set matching specification for STP to allow message signal unit if it matches policing specification

```
<M7EOC:PTYPE=STP,LSD=lsd...,ACTION=ALLOW;
```

Set matching specification for STP to disallow message signal unit if it matches policing specification

```
<M7EOC:PTYPE=STP,LSD=lsd...,ACTION=DISALLOW;
```

Set violation reporting to on for SNM policing type

```
<M7EOC:PTYPE=SNM,LSD=lsd...,REPORTING=ON;
```

Set violation reporting to off for SNM policing type

```
<M7EOC:PTYPE=SNM,LSD=lsd...,REPORTING=OFF;
```

Set violation reporting to on for STP policing type

```
<M7EOC:PTYPE=STP,LSD=lsd...,REPORTING=ON;
```

Set violation reporting to off for STP policing type

```
<M7EOC:PTYPE=STP,LSD=lsd...,REPORTING=OFF;
```

Remove SNM policing specification for specified domain

```
<M7ESE:PTYPE=SNM,LSD=lsd,ORIGD=origd,
       DESTD=destd,HCODED=hcoded,
       CDESTD=cdestd;
```

Remove STP policing specification for specified domain

```
<M7ESE:PTYPE=STP,LSD=lsd,ORIGD=origd,
       DESTD=destd,SID=sid;
```

Initiate SNM policing specification for specified domain

```
<M7ESI:PTYPE=SNM,LSD=lsd,ORIGD=origd,
       DESTD=destd,HCODED=hcoded,
       CDESTD=cdestd;
```

Initiate STP policing specification for specified domain

```
<M7ESI:PTYPE=STP,LSD=lsd,ORIGD=origd,
       DESTD=destd,SID=sid;
```

Clear non-operating table for SNM policing type

```
<M7EZI:PTYPE=SNM;
```

Clear non-operating table for STP policing type

```
<M7EZI:PTYPE=STP;
```

End specification procedure of policing parameters test values

```
<SPTPE;
```

Initiate specification procedure of policing parameters test values

```
<SPTPI;
```

Delete test value for specified policing parameter

```
<SPTSE:PI=pi;
```

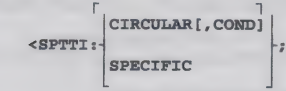
Initiate test value for specified policing parameter

```
<SPTSI:PI=pi,PVAL=pval;
```

End policing test in non-operating policing area

```
<SPTTE;
```

Initiate policing test in non-operating policing area



3.14 TTC7 Commands (Japanese Market Only)

The following commands are used for administration and maintenance of Telecommunication Technology Committee Number 7 (TTC7):

Deactivate signalling link in specified link set

```
<J7LAE:LS=ls,SLC=slc;
```

Activate signalling link in specified link set

```
<J7LAI:LS=ls,SLC=slc;
```

Remove link sets

```
<J7LDE:LS=ls...;
```

Define link sets

```
<J7LDI:LS=ls...;
```

Remove own signalling point

```
<J7OPE:OWNSP=ownsp;
```

Define own signalling point

```
<J7OPI:OWNSP=ownsp;
```

Define or change signalling point identification string

```
<J7PNC:SP=sp,SPID=spid;
```

Define or change own signalling point identification string

```
<J7PNC:OWNSP=ownsp,SPID=spid;
```

Deactivate signalling traffic routing to destination

```
<J7RAE:DEST=dest[,LS=ls];
```

Activate signalling traffic routing to destination

```
<J7RAI:DEST=dest[,LS=ls];
```

Remove signalling route from routing data

```
<J7RSE:DEST=dest;
```

Add signalling route to routing data

```
<J7RSI:DEST=dest;
```

Remove signalling link

```
<J7SLE:LS=ls,SLC=slc;
```

Define signalling link

```
<J7SLI:LS=ls,SLC=slc,ST=st[,PARMG=parmg]
      [,ACL=acl][,SDL=sdl];
```

Remove one or more signalling points from their corresponding networks

```
<J7SPE:SP=sp...;
```

Define one or more signalling points in their corresponding networks

```
<J7SPI:SP=sp...[,OWNSP=ownsp];
```

Delete signalling terminal

```
<J7STE:ST=st;
```

Define interface type for signalling terminal

```
<J7STI:ST=st,ITYPE=itype;
```

4 AXE Documentation

4.1 AXE Technical Library

The documents containing information on all aspects of an application system for the AXE switch are compiled in a number of modules that together form the AXE Technical Library.

The library contains different types of documents with varied information. Documents are available on Compact Disk Read-Only Memory (CD-ROM), on-line, or paper. Modules are normally delivered on CD-ROM, but certain modules are available on paper only.

To make finding information in the library easier, the documents are grouped into the modules described in Table 3 on page 83.

Table 3. AXE Technical Library

Module	Designation
B	Operation and Maintenance
C	Office Documents
D	Documents for Functional Products
E	Software Documents
F	Hardware Documents
	Microcell Users' Guide-D
G	Installation Techniques
H	Installation Test Directions
K	Power Supply Documents

The grouping of documents into modules, each forming an information package, makes the library adaptable to information requirements of different users in an operating company. In addition, many modules are divided into submodules. The submodules group together all documents on a given subject. Submodules can also be ordered separately, allowing more flexibility in ordering.

4.2 Operation & Maintenance (B) Module

This module contains Operational Instruction (OPI) documents for operation and maintenance of the AXE. OPIs are step-by-step task-oriented documents.

This module also includes submodules that contain all of the Command Description (COD), UNIX Manual (MAN) page, Printout Description (POD), Adaptation Direction (ADI), and Application Information (AI) documents for a particular application.

5 APZ 212 30 System Layouts, Controls, and Indicators

This section contains figures that describe cabinet, magazine, and Printed Circuit Board (PCB) layouts. This section also contains figures and tables that describe the functions of controls and indicators on PCBs. Acronyms and abbreviations used in the figures are expanded in Section 9 on page 121.

Figure 2 on page 85 shows the cabinet layout for APZ 212 30.

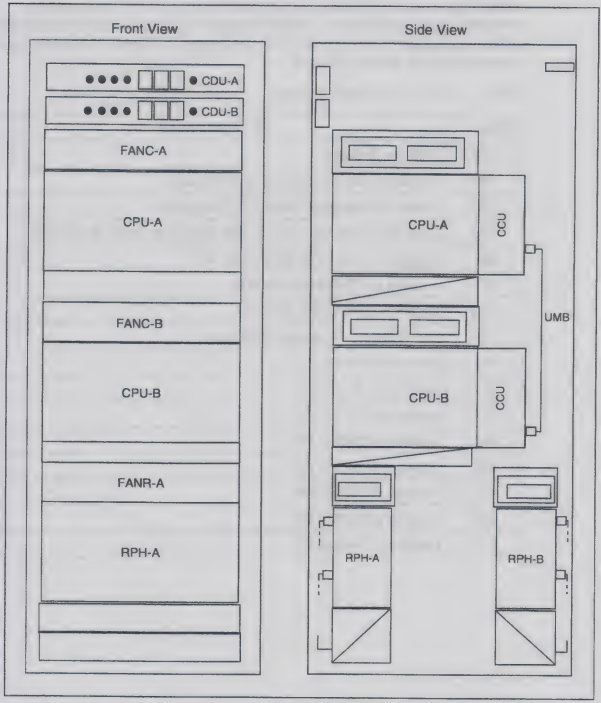


Figure 2. APZ 212 30 Cabinet Layout

The Central Processor Display Unit (CDU) at the top of the cabinet contains Light-Emitting Diodes (LEDs) that indicate the system status and are described in Table 6 on page 89. The CDU also contains a 3-digit display that indicates the status of a system start, restart, or load. If the first digit is 0–2, a system start or restart is in progress. If the first digit is a flashing 3, a Central Processor (CP) load is in progress. If the first digit is a steady 3, the CP is waiting for a reply from the equipment being used for loading. If the first digit is 9, a fault was detected during CP load.

All three digits in the CDU display are used to indicate the phase of the system start, restart, or load. A value in the range 0–254 indicates the absolute start or restart phase. Table 4 on page 86 lists the digits displayed to indicate each phase of CP load. Table 5 on page 87 lists the digits displayed indicate the fault during CP load.

Table 4. CP Load Phase Indicator Digits

Value	CP Load Phase
300	Memory Activities
310	Check of Program Store (PS) Checksum
311	Check of Reference Store (RS) Checksum
320	Loading of Small Data Store (DS) Dump from Main Store (MS)
321	Loading of Large DS Dump from MS
322	Loading of PS Dump from MS
323	Loading of RS Dump from MS
330	First Regional Processor (RP) Reset
331	Second RP Reset
340	Loading of Subfile R0
341	Loading of Subfile R1
342	Loading of Subfile R2
343	Loading of Subfile R3
344	Loading of Subfile R4
345	Loading of Subfile R5
346	Loading of Subfile R6

Table 4. CP Load Phase Indicator Digits (Continued)

Value	CP Load Phase
380	Finished, Halted after Initial Loading
390	Finished

Table 5. CP Load Fault Indicator Digits

Value	CP Load Fault
901	Time-out Error, Input/Output
905	Nonzero Completion Code
906	Repeated Cyclic Redundancy Check (CRC) Errors
907	Re-read Error
908	Early End Signal
909	Forward Subfile Failed
90A	Backward Block Failed
90B	Rewind Tape Failed
920	Checksum Error in Sector Information Block (SIB)
921	Checksum Error in Data
922	Volume Name Incorrect
923	Tape Start Block Not Found
924	Data is not DS Information
925	Identification Block Error, R1–R4
929	Data is not PS/RS Information
92A	Identification Block Error, R5
92B	Identification Block Error, R0
92C	SIB Not Found in R0
92D	Invalid Checksum Indicator
92E	Invalid Loading Indicator
92F	Invalid Subfile Name
931	Invalid Identification Block in RELVOL
940	Extension Module (EM) Bus Not Connected
941	Base Address Table in RP Not Built
942	Time-out Error in Regional Executive Program
943	Control Module (CM) Start Failed
944	Routine Tests not Inhibited
960	Insufficient CP DS Size

Table 5. CP Load Fault Indicator Digits (Continued)

Value	CP Load Fault
961	Insufficient CP PS Size
962	Insufficient CP RS Size
963	Regional Processor Handler State Error
964	Invalid Internal State
966	Re-read error in CP DS
967	Re-read error in CP PS
968	Re-read error in CP RS

Figure 3 on page 89 shows the layout of the APZ 212 30 Central Processor Unit (CPU) subrack. The functions of the controls and indicators on the APZ 212 30 boards are described in Table 6 on page 89.

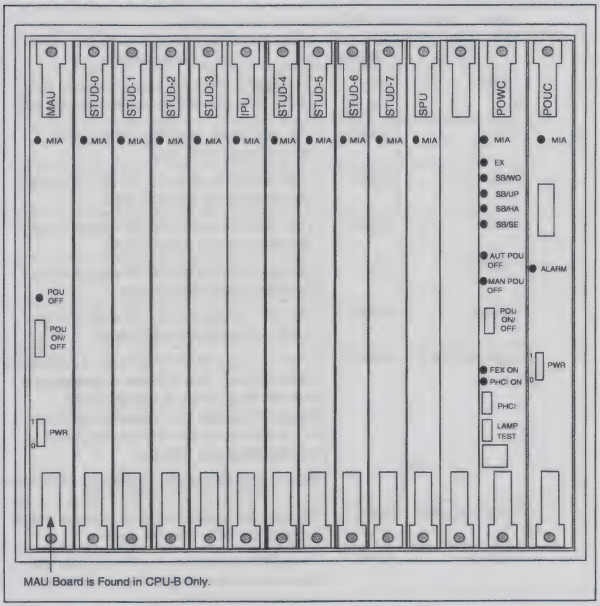


Figure 3. APZ 212 30 CPU Subrack

Table 6. APZ 212 30 Indicators and Switches

Item	Boards	Description
MIA	All	This LED lights when the CP side is in the Standby/Separated (SB/SE) state. Halting and manual power down of the board is allowed.
POU OFF	MAU	This LED lights when secondary power source is turned off. The secondary power is supplied through the POWC board of the opposite CP side.
POU ON/OFF	MAU POWC	This push button switch can only be used to switch power off to the PCB when the MIA LED is lit. Turning off power to the POWC board turns off power to the entire CP side and turns off secondary power to the opposite CP side.

Table 6. APZ 212 30 Indicators and Switches (Continued)

Item	Boards	Description
PWR	MAU POUC	This toggle switch can only be used to switch power off to the PCB when the MIA LED is lit.
EX	POWC	This LED lights when the CP-side is in the Executive (EX) state.
SB/WO	POWC	This LED lights when the CP-side is in the Standby/Working (SB/WO) state.
SB/UP	POWC	This LED lights when the CP-side is in the Standby/Updating (SB/UP) state.
SB/HA	POWC	This LED lights when the CP-side is in the Standby/Halted (SB/HA) state.
SB/SE	POWC	This LED lights when the CP-side is in the Standby/Separated (SB/SE) state.
AUT POU OFF	POWC	This LED lights when the CP side is automatically powered down. The CP side is automatically powered down when 4 fans fail in the Central Processor Unit Magazine (CPUM) or two fans fail in the Regional Processor Handler Magazine (RPHM). **Note:** Automatic power down does not occur in the 80 MHz version of APZ 212 30.
MAN POU OFF	POWC	This LED lights when power is manually turned off using the POU ON/OFF switch.
FEX ON	POWC	This LED flashes when the CP side has been forced into executive state by a command or an error condition.
PHCI ON	POWC	This LED lights when the Program Handling Check Inhibit (PHCI) function is active.
PHCI	POWC	This switch inhibits the Program Handling Check (PHC) function, blocking error signals from the PHC circuit and reactions from the Maintenance Unit (MAU).
LAMP TEST	POWC	This switch activates a test of the POWC board LEDs.
ALARM	POUC	This LED lights when the CP side is powered down.

6 Routine Tasks

6.1 Daily Check List for AXE Switch

1. Alarms:

   Print the alarm list:
   ```
   <ALLIP;
   ```

2. Central Processor:

   Print the processor load:
   ```
   <PLLDP;
   ```

3. Group Switch:

   Print the state of Space Switch Modules (SPMs) and Time Switch Module (TSMs):
   ```
   <GSSTP;
   ```

   Print the value of Clock Modules (CLMs), the acceptable range is 1648–2448:
   ```
   <GSCVP;
   ```

   Print the disturbances and set the counters to zero:
   ```
   <GSDSP;
   ```

   Print the state of all Switching Network Terminals (SNTs):
   ```
   <NTSTP:SNT=ALL;
   ```

4. Voice Channels:

   Check the fault status for each uncoded transcoder channel device:
   ```
   <MBCFP:DETY=MBTRAB;
   ```

   Print the data for each Extension Module Group (EMG):
   ```
   <EXEGP:EMG=ALL;
   ```

   Print the error record for each EMG:
   ```
   <DIREP:EMG=ALL;
   ```

5. Trunks:

   Print the state of digital paths:
   ```
   <DTSTP:DIP=ALL;
   ```

   Print the fault supervision for the Digital Paths (DIPs):
   ```
   <DTFSP:DIP=ALL;
   ```

Print the quality supervision for the DIPs:

```
<DTQUP:DIP=ALL;
```

Print the quality supervision parameters for the DIPs:

```
<DTQSP:DIP=ALL;
```

Print the blocked routes:

```
<BLORP;
```

Print the blocking supervision data for the routes:

```
<BLURP:R=ALL;
```

Print the devices with disturbance supervision alarms:

```
<DUIAP:ACL=acl;
```

Note: Do not print unless disturbance supervision alarms appear on the alarm list.

Print the devices with signalling fault alarms:

```
<FAIAP:ACL=acl;
```

Note: Do not print unless signalling fault alarms appear on the alarm list.

Print the trunks not seized:

```
<SETIP;
```

Note: Supervision must be turned on first.

6.2 Checking Alarms

Print critical alarms:

```
<ALLIP:ACL=A1;
```

Print major alarms:

```
<ALLIP:ACL=A2;
```

Print external alarms:

```
<ALLIP:ALCAT=EXT;
```

6.3 Alarm Display Panel

1. Attendance Status:

   Print attendance status:
   ```
   <ALSTP;
   ```

   Set switch to attended status:
   ```
   <IODAC:ATT;
   ```

   Set switch to unattended status:
   ```
   <IODAC;
   ```

2. Alarm Interface

   Print the Alarm Interface (ALI) units working status:
   ```
   <ALALP;
   ```

   Block the ALI unit:
   ```
   <ALBLI:ALI=ali;
   ```

   Deblock the ALI unit:
   ```
   <ALBLE:ALI=ali;
   ```

   Initiate the ALI unit test (lamps and bell):
   ```
   <ALLTI:ALI=ali;
   ```

   End the ALI unit test:
   ```
   <ALLTE:ALI=ali;
   ```

6.4 CLC Handling

1. The following commands are used to handle the Control Signalling Link Central (CLC):

   Determine CLC value for EMG:
   ```
   <EXEGP:EMG=emg;
   ```

   Note: The EMG is part of the route name.

   Determine CLC status:
   ```
   <EXCLP:EQM=CLC-n;
   ```

   Block CLC:
   ```
   <BLCLI:EQM=CLC-n;
   ```

   Deblock CLC:
   ```
   <BLCLE:EQM=CLC-n;
   ```

2. The following procedure is used to determine the Digital Path (DIP) for a specified CLC:

   Determine Mobile Bothway Line Terminal (MBLT) for specified CLC:
   ```
   <EXCLP:EQM=CLC-n;
   ```

   Determine Switching Network Terminal (SNT) for specified MBLT:

   ```
                  ⌈        ⌉
                  | MBLT-n |
   <EXDEP:DEV=-   |        |-;
                  | MBLT86-n|
                  ⌊        ⌋
   ```

   Determine DIP for specified SNT:
   ```
   <NTCOP:SNT=snt,DIPINF;
   ```

3. The following procedure is used to determine the EMG for a specified CLC:

   Determine MBLT for specified CLC:
   ```
   <EXCLP:EQM=CLC-n;
   ```

   Determine SNT for specified MBLT:

   ```
                  ⌈        ⌉
                  | MBLT-n |
   <STDEP:DEV=-   |        |-;
                  | MBLT86-n|
                  ⌊        ⌋
   ```

Note: The EMG is part of the route name.

6.5 Forlopp Restart and Selective Restart

1. Forlopp Restart:

   Print the forlopp restart function status for detected APZ faults:

   ```
   <SYRAP:FORLOPPRES;
   ```

   Change the forlopp restart function status to active for detected APZ faults (default value):

   ```
   <SYRAC:FORLOPPRES=ACTIVE;
   ```

2. Selective Restart:

   Print the selective restart function status:

   ```
   <SYRAP:SELRES;
   ```

   Change the selective restart function status to active for detected APZ and APT faults:

   ```
   <SYRAC:SELRES=ACTIVE;
   ```

6.6 Audit Function Forced Release

1. Forlopp Execution Status:

   Print the forlopp execution status for detected APT faults:

   ```
   <SYFSP;
   ```

   Change the forlopp execution status to active for detected APT faults (default value):

   ```
   <SYFSC:FLSTATUS=ACTIVE;
   ```

2. Function Block Categories:

   Print the categories for all function blocks:

   ```
   <SYBCP:BLOCK=ALL;
   ```

6.7 Registration of Software Irregularities (ROSI) Functions

1. Audit Function:

   Print the audit function Registration of Software Irregularities (ROSI) data for all function blocks:

   ```
   <AFSIP:BLOCK=ALL;
   ```

   Initiate the function to issue an Audit Function ROSI result printout each time a software irregularity report is generated:

   ```
   <AFSII;
   ```

2. Program Store:

   Print the threshold supervision data for the program store memory:

   ```
   <AFTSP:TEST=101;
   ```

   Print the threshold supervision alarm log data for the program store memory:

   ```
   <AFTSP:TEST=101,LOG;
   ```

   Set the threshold supervision limit for the program store memory (recommended values shown):

   ```
   <AFTSS:TEST=101,LIM1=80,HYST1=10,ACL1=A3,
         LIN2=90,HYST2=10,ACL2=A2;
   ```

   Initiate threshold supervision for the program store memory:

   ```
   <AFTSI:TEST=101;
   ```

3. Reference Store:

   Print the threshold supervision data for the reference store memory:

   ```
   <AFTSP:TEST=102;
   ```

   Print the threshold supervision alarm log data for the reference store memory:

   ```
   <AFTSP:TEST=102,LOG;
   ```

   Set the threshold supervision limit for the reference store memory (recommended values shown):

   ```
   <AFTSS:TEST=102,LIM1=80,HYST1=10,ACL1=A3,
         LIM2=90,HYST2=10,ACL2=A2;
   ```

   Initiate threshold supervision for the reference store memory:

   ```
   <AFTSI:TEST=102;
   ```

4. Data Store:

   Print the threshold supervision data for the data store memory:

   ```
   <AFTSP:TEST=104;
   ```

Print the threshold supervision alarm log data for the data store memory:

```
<AFTSP:TEST=104,LOG;
```

Set the threshold supervision limit for the data store memory (recommended values shown):

```
<AFTSS:TEST=104,LIM1=80,HYST1=10,ACL1=A3,
      LIM2=90,HYST2=10,ACL2=A2;
```

Initiate threshold supervision for the data store memory:

```
<AFTSI:TEST=104;
```

5. Size Alteration Events (SAEs):

Print the threshold supervision data for all SAEs with parameters set by the AFTSS command:

```
<AFTSP:TEST=110,SAE=ALL;
```

Print the threshold supervision alarm log data for all SAEs with parameters set by the AFTSS command:

```
<AFTSP:TEST=110,LOG;
```

Set the threshold supervision limit for a SAE (recommended values shown):

```
<AFTSS:TEST=110,SAE=sae[,BLOCK=block],
      LIM1=80,HYST1=10,ACL1=A3,LIM2=90,
      HYST2=10,ACL2=A2;
```

Initiate threshold supervision for a SAE:

```
<AFTSI:TEST=110,SAE=sae[,BLOCK=block];
```

6.8 Disturbance Registrations on Routes

Print the routes having disturbance registration activated:

```
<DURNP;
```

Initiate or reorder disturbance registration for a route:

```
<DURNI:R=r;
```

End the disturbance registration:

```
<DURNE:R=r;
```

6.9 Extension Module Time Switch Repair

1. Repair Intervention:

Caution!

The REMEI command causes dial tone to be lost.

Prepare the Extension Module Regional Processor (EMRP) for repair intervention:

```
<REMEI:EMG=emg,MAG=EM-xx,PCB=pcb;
```

Prepare the Signalling Terminal Central (STC) for repair intervention:

```
<REMEI:EMG=emg,MAG=RPBC-xx,PCB=POU;
```

2. Repair:

Repair the EMRP:

```
<RECEI:EMG=emg,EMRP=xx-[A|B];
```

Repair the Signalling Terminal Remote (STR):

```
<RECEI:EMG=emg,STR=A;
```

6.10 Switching Network Terminal

1. Status:

   Print the SNT working status:
   ```
   <NTSTP:SNT=snt;
   ```

   Print the Digital Path (DIP) status:
   ```
   <DTSTP:DIP=dip;
   ```

2. Connection Data:

   Print the SNT connection data:
   ```
   <NTCOP:SNT=snt,DIPINF;
   ```

   Print the Time Switch Module (TSM) connection data:

   ```
                          ┌          ┐
                          │ sntp...  │
   <NTCOP:SNTP=           │          │ ;
                          │ ALL      │
                          └          ┘
   ```

   Print the SNT position:
   ```
   <EXPOP:SNT=snt;
   ```

   Print the device to SNT connection data:
   ```
   <EXDEP:DEV=dev;
   ```

3. Blocking and Deblocking:

   Block the SNT:
   ```
   <NTBLI:SNT=snt;
   ```

   Deblock the SNT:
   ```
   <NTBLE:SNT=snt;
   ```

   Block the DIP:
   ```
   <DTBLI:DIP=dip;
   ```

   Note: All devices must be blocked first.

   Deblock the DIP:
   ```
   <DTBLE:DIP=dipname;
   ```

4. Testing:

   Test the SNT:
   ```
   <NTTEI:SNT=snt;
   ```

   Note: The SNT must be blocked first.

6.11 Extension Module

1. Status:

   Print the Extension Module (EM) status:
   ```
   <EXEMP:RP=rp,EM=em;
   ```

   Print the EM position:
   ```
   <EXPOP:RP=rp,EM=em;
   ```

2. Repair:

   Diagnose the EM:
   ```
   <REPRI:RP=rp,EM=em;
   ```

   Prepare for manual replacement of the board:
   ```
   <REMRI:RP=rp,EM=em,PCB=pcb;
   ```

   Order a repair check for the EM:
   ```
   <RECRI:RP=rp,EM=em;
   ```

3. Blocking and Deblocking:

   Block the EM:
   ```
   <BLEMI:RP=rp,EM=em;
   ```

   Deblock the EM:
   ```
   <BLEME:RP=rp,EM=em;
   ```

6.12 Regional Processor

1. Status:

   Print the Regional Processor (RP) status:
   ```
   <EXRPP:RP=rp;
   ```

   Print the RP position:
   ```
   <EXPOP:RP=rp;
   ```

2. Repair:

   Diagnose the RP:
   ```
   <REPRI:RP=rp;
   ```

   Prepare for manual replacement of the board:
   ```
   <REMRI:RP=rp,PCB=pcb;
   ```

   Order a repair check for the RP:
   ```
   <RECRI:RP=rp;
   ```

3. Blocking and Deblocking:

   Block the RP:
   ```
   <BLRPI:RP=rp;
   ```

   Deblock the RP
   ```
   <BLRPE:RP=rp;
   ```

4. EM Control:

   Set the RP to control the EMs:
   ```
   <DPECS:RP=rp;
   ```

6.13 Test Position

Print test position data for the command originating Input/Output (I/O) device:

```
<EXTPP;
```

Print the test position data for all I/O devices:

```
<EXTPP:SURVEY;
```

Initiate trunk test in a route:

```
<TCTDI:R=route,BNB=bnb;
```

Note: The value of the parameter BNB should be a test number at the distant end.

The following subcommands are allowed after the response READY FOR CONNECTION:

CON	Test the first or next trunk
REP	Repeat test on same trunk
PRI	List untested trunks
REI	Disconnect inlet for analog test
COI	Connect inlet for analog test
END	End TCTDI dialog

6.14 Group Switch

1. Status:

   Print the Group Switch (GS) status:
   ```
   <GSSTP;
   ```

   Print the network synchronization status:
   ```
   <NSSTP;
   ```

2. GS Data:

   Print the GS disturbance counters:
   ```
   <GSDSP;
   ```

   Print the GS unit location:
   ```
                ┌          ┐
                │SPM=spm   │
   <EXPOP:      │TSM=TSM   │;
                │CLM=clm   │
                └          ┘
   ```

   Print the counter value (the value range is 1648–2048):
   ```
   <GSCVP;
   ```

   Print the network synchronization data:
   ```
   <NSDAP;
   ```

3. Blocking and Deblocking:

   Block a GS unit:
   ```
                ┌          ┐
                │SPM=spm   │
   <GSBLI:      │TSM=TSM   │;
                │CLM=clm   │
                └          ┘
   ```

   Deblock a GS unit:
   ```
                ┌          ┐
                │SPM=spm   │
   <GSBLE:      │TSM=TSM   │;
                │CLM=clm   │
                └          ┘
   ```

Caution!

Do not block all synchronization references at the same time or disruptions to the network can occur.

Block the clock reference:

```
                ┌       ┐
                │RCM=rcm│
<NSBLI:         │DIP=dip│;
                │EXT=ext│
                └       ┘
```

Deblock the clock reference

```
                ┌       ┐
                │SPM=spm│
<NSBLE:         │TSM=TSM│;
                │CLM=clm│
                └       ┘
```

4. Testing:

Test a GS unit:

```
                ┌       ┐
                │SPM=spm│
<GSTEI:         │TSM=TSM│;
                │CLM=clm│
                └       ┘
```

Test the clock reference:

```
                ┌       ┐
                │SPM=spm│
<NSTEI:         │TSM=TSM│;
                │CLM=clm│
                └       ┘
```

Note: When a TSM is repaired, it should be powered-on in the following sequence:

- Switch on -5V
- Wait 15–20 seconds
- Switch on +5V

6.15 External Alarm Receivers

Print the alarm receiver status:

```
<ALEXP;
```

Print the alarm receivers data:

```
<ALRDP;
```

Block the external alarm receiver:

```
<BLEAI:DEV=dev;
```

Deblock the external alarm receiver:

```
<BLEAAE:DEV=dev;
```

Manually reset the alarm:

```
<ALEXR:DEV=dev;
```

7 Administration

The procedures and commands described in this section are used to perform administrative tasks.

7.1 Mobile Station Number Administration

Print mobile station number series specification data:

```
<ANMSP:MSNBS=msnbs;
```

Zero mobile station number analysis Non-Operating (NOP) table:

```
<ANMZI;
```

Compare mobile station number analysis Operating (OP) to NOP table:

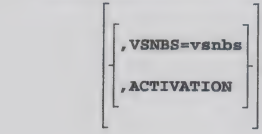
```
<ANMSP:MSNBS=ALL,COMP;
```

Copy mobile station number analysis OP table to NOP table:

```
<ANMCI;
```

Specify mobile station number series data:

```
<ANMSI:MSNBS=msnbs,OBA1=oba1,OBA2=oba2,EXM=exm
```



Initiate mobile station number analysis:

```
<ANMAI[:TIME=hhmm];
```

Note: The command ANMAI swaps the mobile station number analysis OP table with the NOP table. The new NOP table is protected from changes for a specific time period (usually 24 hours).

Reset mobile station number analysis:

```
<ANMAR;
```

Note: The command ANMAR swaps the mobile station number analysis OP table with the NOP table before the protection period expires. The command ANMAR will not work if the protection period has expired.

7.2 Size Alterations

Print block size:

```
<SAAEP:SAE=sae...;
```

Change block size:

```
<SAAII:SAE=sae,NI=ni;
```

8 Maintenance

The procedures and commands described in this section are used to perform maintenance tasks.

8.1 Subscriber Maintenance

Trace an established call:

```
<CTRMI:MSNB=msnb;
```

Check for Electronic Serial Number (ESN) mismatches:

```
<MTMNP:REST;
```

Print subscriber data:

```
<MDSCP:MSNB=msnb;
```

Print ESN:

```
<MTSNP:MSNB=msnb;
```

Initiate tracing of all calls made by a subscriber:

Find subscriber's state:

```
<MTSSP:MSNB=msnb;
```

Cancel subscriber's registration:

```
<MDVSE:MSNB=msnb;
```

8.2 EMRP Maintenance

Deblock EM at cell site:

```
<BLEEE:EMG=emg,EM=em;
```

Block EM at cell site:

```
<BLEEI:EMG=emg,EM=em;
```

Print Extension Module Regional Processor (EMRP) status:

```
<EXEPP:EMG=emg,EM=ALL;
```

Print identity of software loaded in EMRP:

```
<EXEDP:EMG=emg,EM=em;
```

Initiate repair of EMG (prints suspected boards):

```
<REPEI:EMG=emg,EMRP=[n-A]
                    [n-B] ;
```

Repair and block suspected board:

```
<REMEI:EMG=emg,MAG=EM-n,PCB=EMRP--[A]--pcb;
                                  [B]
```

Check repair and deblock EMRP:

```
<RECEI:EMG=emg,EMRP=emrp;
```

8.3 Route Maintenance

Deblock route:

```
<BLORE:R=r;
```

Block route:

```
<BLORI:R=r;
```

Print route and SNT connected to devices:

```
<EXDEP:DEV=dev...;
```

Disconnect devices from routes

```
<EXDRE:DEV=dev...;
```

Assign devices to route

```
<EXDRI:DEV=dev...,R=r;
```

Print RP/EM data for devices

```
<EXDRP:DEV=dev...;
```

Change route name:

```
<EXRNC:R1=r1,R2=r2;
```

Initiate route:

```
<EXROI
```

Note: The command EXROI has too many parameters to list in this document. See the Command Description EXROI for a complete list of parameters. See the Application Information for the affected function block to determine which parameters to use.

Change route data:

```
<EXRBC
```

Note: The command EXRBC has too many parameters to list in this document. See the Command Description EXRBC for a complete list of parameters. See the Application Information for the affected function block to determine which parameters to use.

Print route data:

```
<EXROP:R=r;
```

Print devices connected to route and their states:

```
<STRDP:R=r;
```

Print the total number of devices, number of busy devices, number of idle devices, and number of blocked devices in the specified route and the status of the specified route:

```
<STRSP:R=r;
```

8.4 DIP (T1 Carrier) Maintenance

Deblock Digital Path (DIP) (T1 Carrier):

```
<DTBLE:DIP=dip...;
```

Block DIP (T1 Carrier):

```
<DTBLI:DIP=dip...;
```

Print status of quality supervision counters:

```
<DTQUP:DIP=dip...;
```

Reset quality supervision counters:

```
<DTQSR:DIP=dip...,SF,BFF,DF;
```

Print DIP (T1 Carrier) status:

```
<DTSTP:DIP=dip...;
```

Print SNT connected to DIP (T1 Carrier):

```
<DTDIP:DIP=dip...;
```

8.5 Trunk Maintenance

Print devices in disturbed state:

```
<STBSP:DETY=dety...;
```

Deblock devices:

```
<BLODE:DEV=dev...;
```

Block devices:

```
<BLODI:DEV=dev...;
```

Operate device relay:

```
<RODEI:DEV=dev,RON=ron...;
```

Print device states:

```
<STDEP:DEV=dev...;
```

Monitor specified device:

```
<MONTI:DEV=dev;
```

Reset quality supervision alarm for specified devices:

```
<SEQAR:DEV=dev...;
```

Originate test call from specific origin for B-number analysis and through a specific route:

```
<TCTDI:BNB=bnb,R1=r1,BO=bo;
```

Originate test call from specific route:

```
<TCTDI:BNB=bnb,DEV=dev;
```

8.6 CP Maintenance

Switch executive Central Processor (CP) side:

```
<DPSWI;
```

Halt standby CP side:

```
<DPHAS;
```

Test CP:

```
<REPCI;
```

Prepare CP for repair:

```
                ┌      ┐
                │CPU-A │
<REMCI:MAG=     │      │ ,PCB=pcb;
                │CPU-B │
                └      ┘
```

Perform repair check on CP and return CP to normal working state:

```
<RECCI;
```

Note: The normal working state for the CP is CP-A set to executive and CP-B set to standby.

Print CP working state:

```
<DPWSP;
```

Print processor load:

```
<PLLDP;
```

Initiate system backup:

```
<SYBUP:FILE=RELFSWn;
```

Rotate backup files:

```
<SYTUC;
```

End automatic backup:

```
<SYBUE;
```

Perform large or small restart or reload:

```
                ┌      ┐
                │LARGE │
<SYREI:RANK=    │SMALL │ ;
                │RELOAD│
                └      ┘
```

End command logging function:

```
<SYCLE;
```

Initiate command logging function:

```
<SYCLI;
```

8.7 SNT Maintenance

1. Use the following commands to obtain information about the SNT:

   Print SNT state:
   ```
   <NTSTP:SNT=snt;
   ```

   Print devices connected to SNT:
   ```
   <NTCOP:SNT=snt,DIPINF;
   ```

2. If a DIP fails, it may be because of a SNT failure. Use the following procedure to diagnose and repair the failure:

   Print DIP state:
   ```
   <DTSTP:DIP=dip;
   ```

   Print SNT connected to DIP:
   ```
   <DTDIP:DIP=dip;
   ```

   Print state of SNT connected to DIP:
   ```
   <NTSTP:SNT=snt;
   ```

   Print Regional Processor (RP) and EM connected to device:
   ```
   <EXDRP:DEV=dev;
   ```

   Note: Make a note of the RP and RP twin controlling the device.

   Transfer control of EM (parameter CM) to primary RP:
   ```
   <DPECS:RP=rp,CM=cm;
   ```

   Transfer control of EM (parameter CM) to RP twin:
   ```
   <DPECS:RP=rp,CM=cm;
   ```

   Return control of EM (parameter CM) to primary RP:
   ```
   <DPECS:RP=rp;
   ```

   Print state of SNT connected to DIP:
   ```
   <NTSTP:SNT=snt;
   ```

8.8 Resetting Quality and Disturbance Supervision Alarms

Note: To clear other alarms, see the appropriate alarm handling Operational Instruction (OPI) in the Operation and Maintenance (O&M) manual.

Reset DIP quality supervision alarm:

```
<DTQSR:DIP=dip,BFF,SF,DF;
```

Reset seizure quality supervision alarm:

```
<SEQAR:R=r;
```

Reset disturbance supervision of individual devices alarm:

```
<DUIAR:R=r1&r2;
```

Reset disturbance supervision of trunk routes alarm:

```
<DUDAR:R=r;
```

9 Acronyms and Abbreviations

ACS	Adjunct Computer Subsystem
ADI	Adaptation Direction
AFP	Adjunct Processor File Processing
AI	Application Information
ALI	Alarm Interface
AMA	Automatic Message Accounting
AMU	Automatic Maintenance Unit
ANSI	American Nation Standards Institute
AP	Adjunct Processor
ASP	Adjacent Signalling Point
AUT	Automatic
BSC	Base Station Controller
CCITT7	Consultative Committee for International Telegraph and Telephone Number 7
CCU	Cross Connect Unit
CD-ROM	Compact Disk Read-Only Memory
CDMA	Code Division Multiple Access
CDU	Central Processor Display Unit
CIC	Carrier Identification Code
CLC	Control Signalling Link-Central
CLLI	Common Language Location Identifier
CLM	Clock Module
CM	Control Module
CMS	Cellular Mobile System
COD	Command Description
CP	Central Processor
CPU	Central Processor Unit
CPUM	Central Processor Unit Magazine
CRC	Cyclic Redundancy Check
CSL	Control Signalling Link
CSP	Control Signalling Path
DAT	Digital Audio Tape
DC	Direct Current
DCME	Digital Circuit Multiplication Equipment
DCS	Data Communications Subsystem
DIP	Digital Path

DPC	Destination Point Code
DS	Data Store
DS0	Digital Stream 0
DTMF	Dual Tone Multifrequency
ECP	Echo Canceller in Pool
EM	Extension Module
EMG	Extension Module Group
EMRP	Extension Module Regional Processor
ESN	Electronic Serial Number
ETC	Exchange Terminal Circuit
EX	Executive
FEX	Forced Executive
FANC	Forced-Air Network, CPU
FANR	Forced-Air Network, RPH
FMS	File Management Subsystem
GS	Group Switch
GSS	Group Switch Subsystem
GT	Global Title
HA	Halted
I/O	Input/Output
IC	Interexchange Carrier
IMSI	International Mobile Station Identity
IPU	Instruction Processor Unit
LAI	Location Area Identity
LED	Light Emitting Diode
LNP	Local Number Portability
MAN	Manual
MAU	Maintenance Unit
MAUM	Maintenance Unit Magazine
MCS	Man-Machine Communications Subsystem
MF	Multifrequency
MIA	Manual Intervention Allowed
MLHG	Multiline Hunt Group
MML	Man-Machine Language
MS	Main Store
MSC	Mobile Services Switching Center

MTP	Message Transfer Protocol
NOP	Not Operating
O&M	Operation and Maintenance
OP	Operating
OPC	Originating Point Code
OPI	Operational Instruction
PBX	Private Branch Exchange
PCB	Printed Circuit Board
PHC	Program Handling Check
PHCI	Program Handling Check Inhibit
PIC	Preferred Interexchange Carrier
POD	Printout Description
POU	Power Unit
POUC	Power Unit, Central Processor
POWC	Power Controller
PS	Program Store
PTT	Post Telephone and Telegraph Administration
PWR	Power
ROSI	Registration of Software Irregularities
RP	Regional Processor
RPH	Regional Processor Handler
RPHM	Regional Processor Handler Magazine
RS	Reference Store
RT1	Remote Terminal 1
SAE	Size Alteration Event
SB	Standby
SB/HA	Standby/Halted
SB/SE	Standby/Separated
SB/UP	Standby/Updating
SB/WO	Standby/Working
SCCP	Signalling Connection Control Part
SIB	Sector Information Block
SIU	Status and Indicator Unit
SNB	Subscriber Number
SNM	Signalling Network Management

SNOAM	Signalling Network on Occurrence of Autonomous Message
SNT	Switching Network Terminal
SPM	Space Switch Module
SPU	Signal Processor Unit
SS7	Signalling System Number 7
SSS	Subscriber Switching Subsystem
STC	Signalling Terminal Central
STP	Signalling Transfer Point
STR	Signalling Terminal Remote
STUD	Storage Unit for Data Store
TSM	Time Switch Module
TSS	Trunk and Signalling Subsystem
TTC7	Telecommunication Technical Committee Number 7
UMB	Updating and Matching Bus
UP	Updating
V	Volt
WIN	Wireless Intelligent Network

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